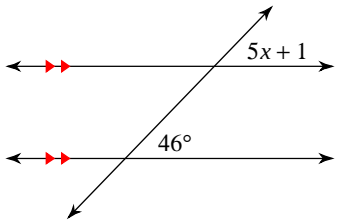
Geometry Name_____

Assignment

Date_____ Period____

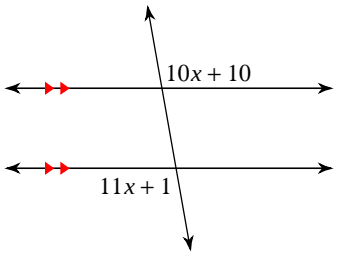
Solve for *x*.

1)



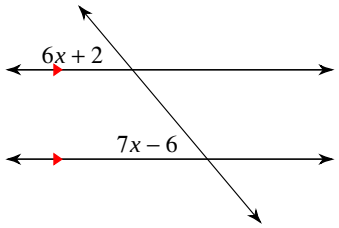
A) 9 B) 7
C) 6 D) 8

2)



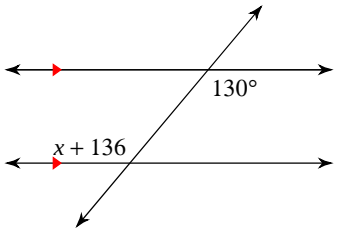
A) 4 B) 8
C) 7 D) 9

3)



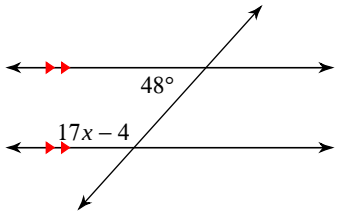
A) 6 B) 4
C) 8 D) –10

4)



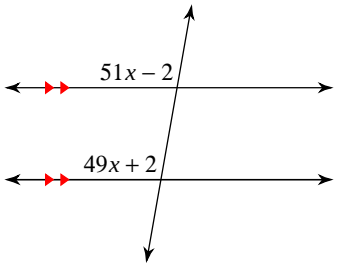
A) 7 B) –7
C) 5 D) –6

5)



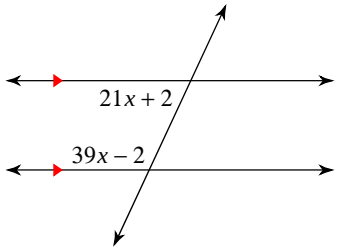
A) 9 B) 6
C) 5 D) 8

6)



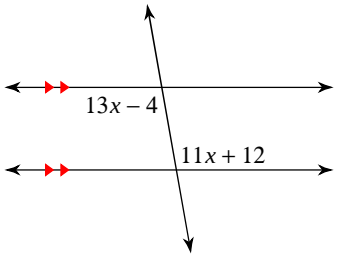
A) 6 B) –3
C) –12 D) 2

7)



A) –4 B) 3
C) –8 D) 5

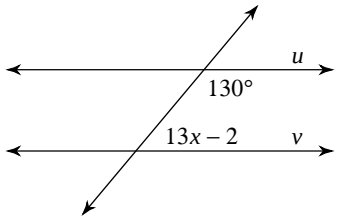
8)



A) 8 B) 11
C) 6 D) –5

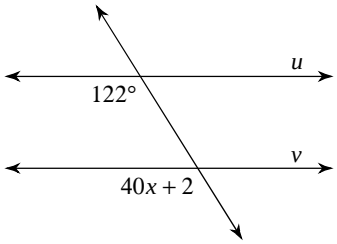
Find the value of *x* that makes lines u and v parallel.

9)



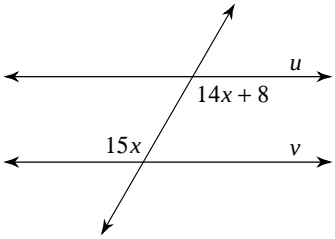
A) 4 B) 7
C) –6 D) –9

10)



A) 9 B) –12
C) 12 D) 3

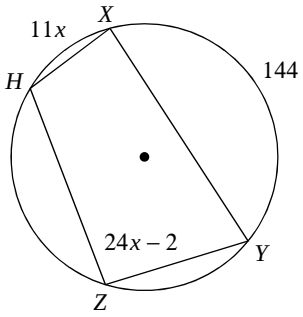
11)



A) –9 B) –7
C) 5 D) 8

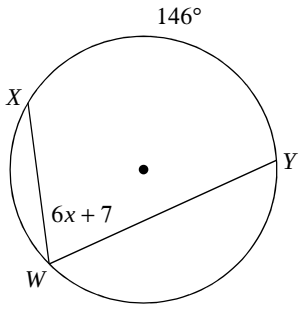
Solve for *x*.

12)



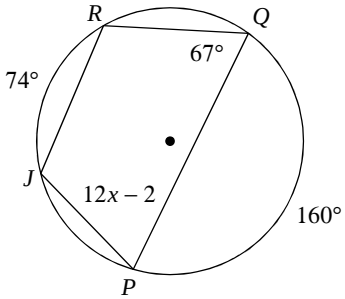
A) 7 B) 13
C) 4 D) 8

13)



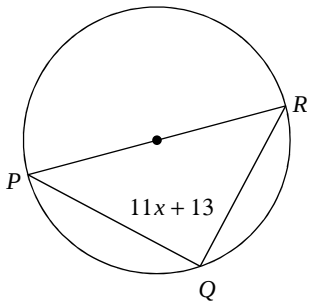
A) 9 B) 10
C) 8 D) 11

14)



A) 7 B) 8
C) 2 D) 6

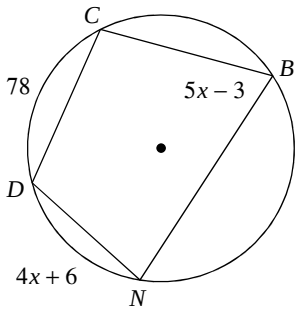
15)



A) 7 B) 13
C) 6 D) 8

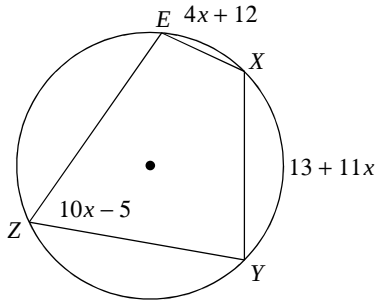
Find the measure of the arc or angle indicated.

16) Find $m\angle NBC$



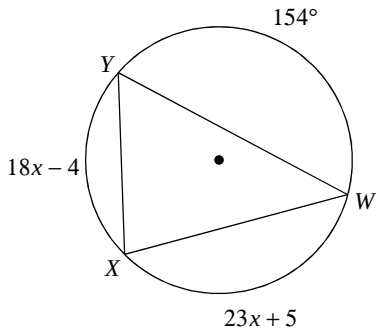
A) 76° B) 72°
C) 108° D) 42°

17) Find $m\angle EZY$



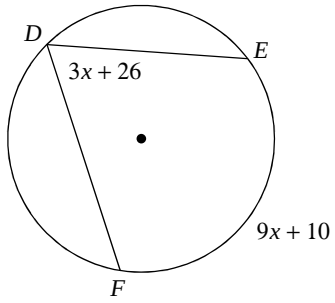
A) 48° B) 65°
C) 50° D) 43°

18) Find $m\angle YWX$



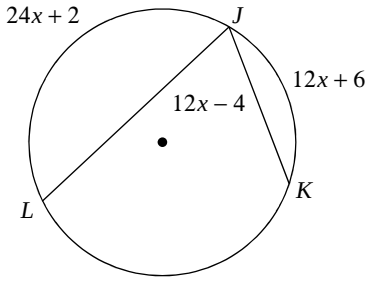
A) 43° B) 42°
C) 40° D) 21°

19) Find $m\angle EDF$



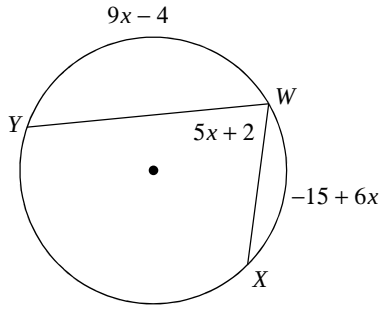
A) 67° B) 59°
C) 101° D) 68°

20) Find $m\angle KJL$



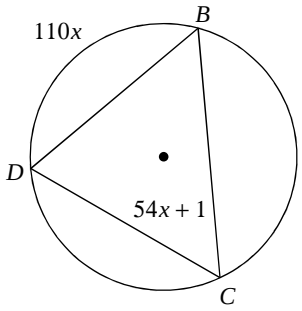
A) 89° B) 68°
C) 71° D) 92°

21) Find $m\angle XWY$



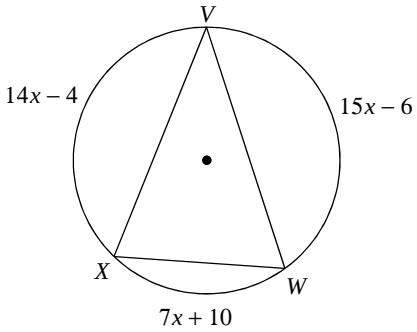
A) 96° B) 97°
C) 47° D) 77°

22) Find $m\angle BCD$



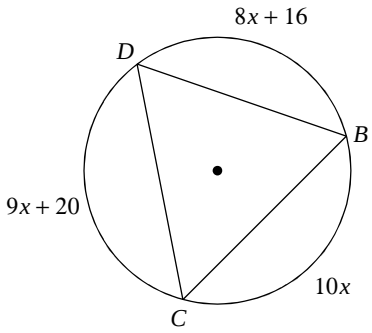
A) 48° B) 73°
C) 67° D) 55°

23) Find $m\angle XVW$



A) 27° B) 46°
C) 40° D) 29°

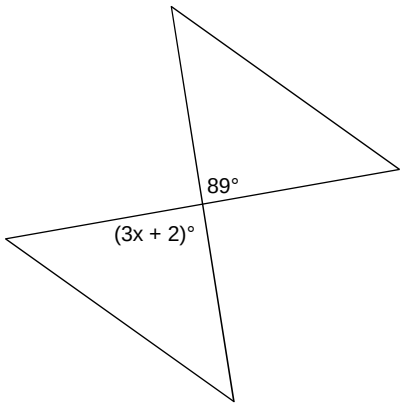
24) Find $m\angle DBC$



A) 58° B) 92°
C) 64° D) 80°

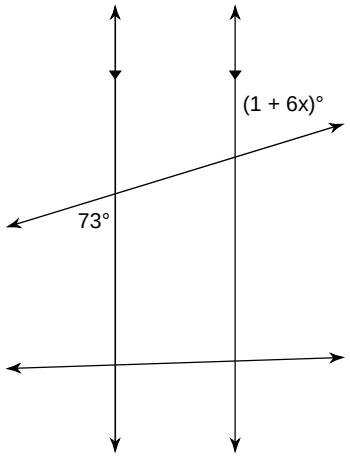
Find the value of x.

25)



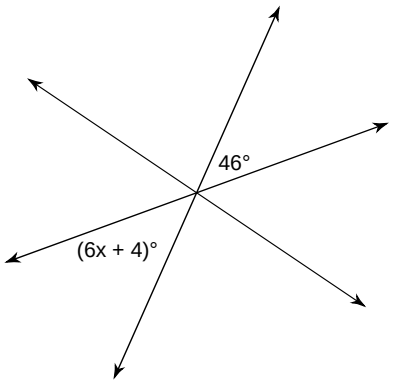
A) 43 B) 29
C) 37 D) 32

26)



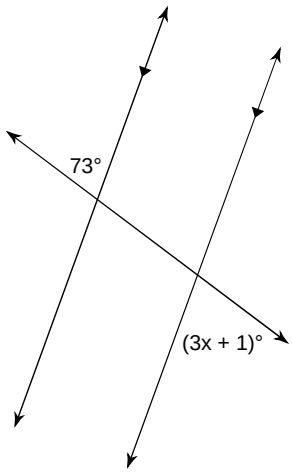
A) 12 B) 6
C) 13 D) 10

27)



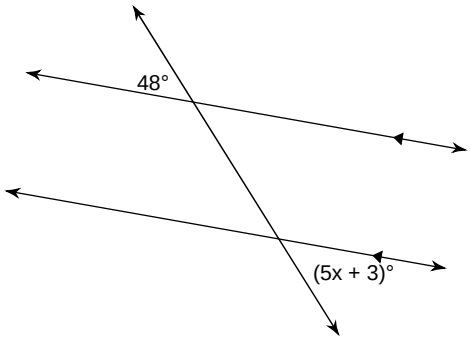
A) 7 B) 11
C) 10 D) 8

28)



A) 24 B) 29
C) 31 D) 25

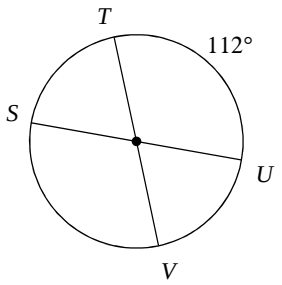
29)



A) 9 B) 20
C) 13 D) 18

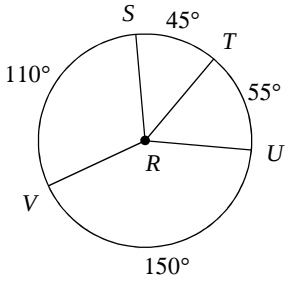
Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

30) $m\widehat{VSU}$



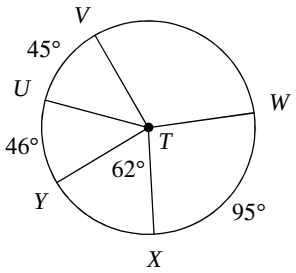
A) 292° B) 144°
C) 80° D) 130°

31) $m\angle VRT$



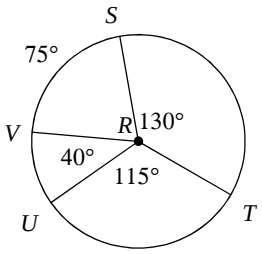
A) 142° B) 130°
C) 135° D) 155°

32) $m\angle XTU$



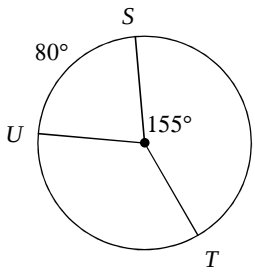
A) 108° B) 140°
C) 100° D) 51°

33) $m\angle URS$



A) 106° B) 137°
C) 141° D) 115°

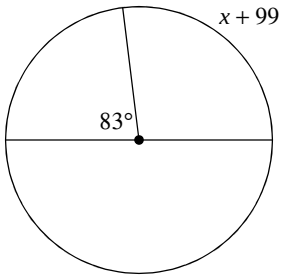
34) $m\overset{\frown}{TUS}$



A) 40° B) 90°
C) 74° D) 205°

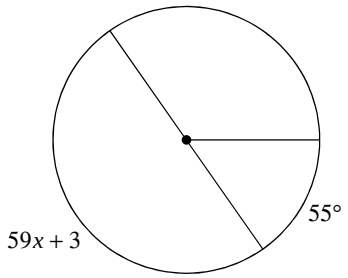
Solve for *x*. Assume that lines which appear to be diameters are actual diameters.

35)



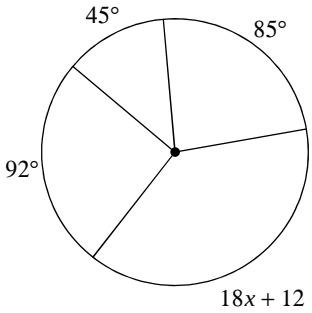
A) –4 B) –2
C) 10 D) 8

36)



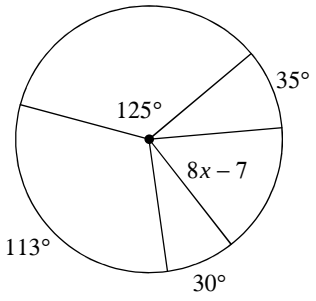
A) –6 B) –2
C) 3 D) 5

37)



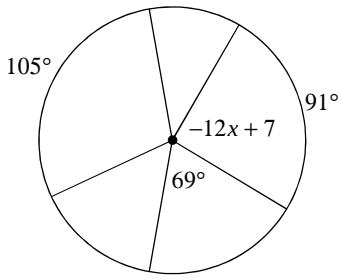
A) 7 B) −3
C) −5 D) −6

38)



A) 8 B) −10
C) 0 D) −8

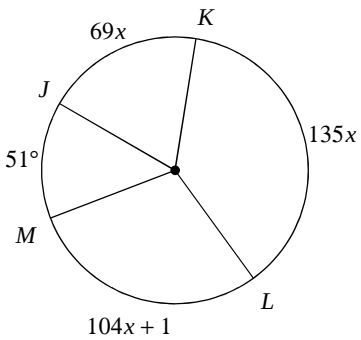
39)



A) 8 B) 2
C) −6 D) −7

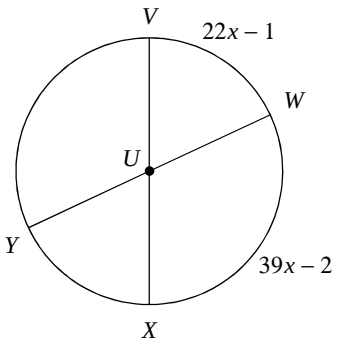
Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

40) $m\widehat{LM}$



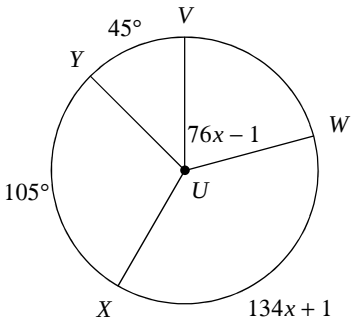
A) 108° B) 105°
C) 142° D) 117°

41) $m\angle YUV$



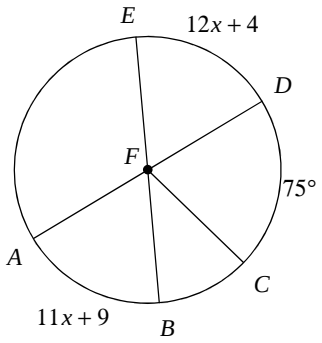
A) 98° B) 110°
C) 124° D) 115°

42) $m\angle VUW$



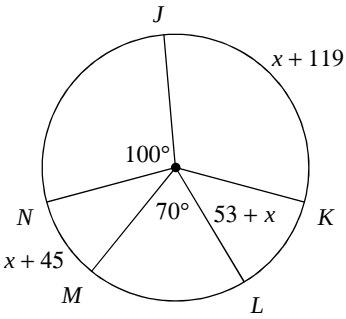
A) 70° B) 75°
C) 143° D) 49°

43) $m\angle EFD$



A) 44° B) 65°
C) 73° D) 64°

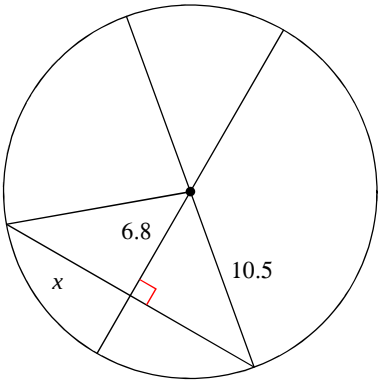
44) $m\widehat{JK}$



A) 110° B) 129°
C) 106° D) 108°

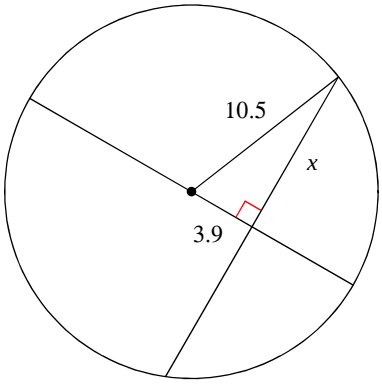
Find the length of the segment indicated. Round your answer to the nearest tenth if necessary.

45)



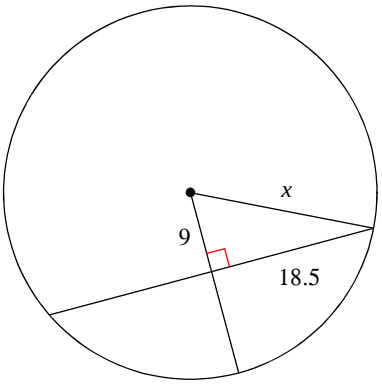
A) 11.3 B) 10
C) 8 D) 5.3

46)



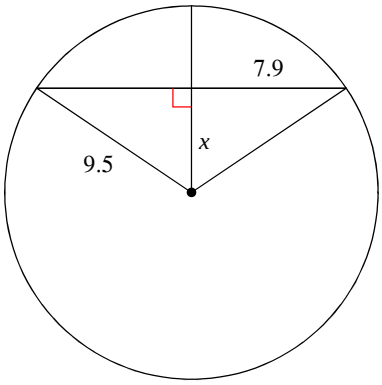
A) 6.5 B) 6.7
C) 12.2 D) 9.7

47)



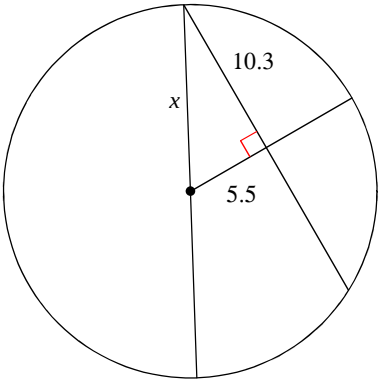
A) 10.7 B) 26.3
C) 14.7 D) 20.6

48)



A) 5.3 B) 4.1
C) 4.9 D) 4.8

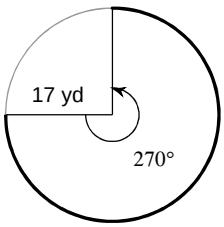
49)



A) 6.9 B) 11.7
C) 9.5 D) 15.8

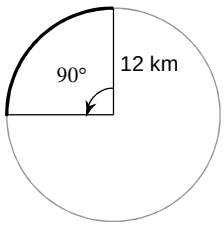
Find the length of each arc.

50)



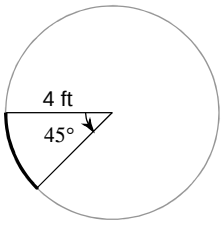
A) $\frac{46\pi}{3}$ yd B) $\frac{49\pi}{6}$ yd
C) $\frac{51\pi}{2}$ yd D) $\frac{867\pi}{4}$ yd

51)



A) $\frac{175\pi}{6}$ km B) 6π km
C) 36π km D) 9π km

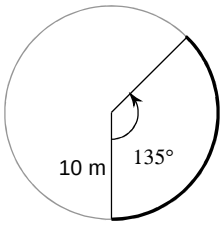
52)



A) $\frac{575\pi}{6}$ ft B) $\frac{25\pi}{8}$ ft

C) π ft D) 16π ft

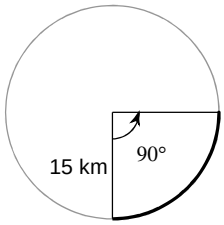
53)



A) $\frac{98\pi}{3}$ m B) 2700π m

C) $\frac{15\pi}{2}$ m D) 27π m

54)

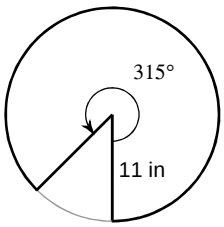


A) $\frac{10\pi}{3}$ km B) $\frac{15\pi}{2}$ km

C) $\frac{49\pi}{12}$ km D) 30π km

Find the area of each sector.

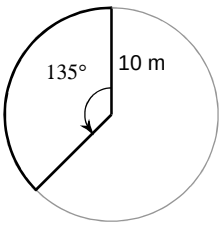
55)



A) $\frac{77\pi}{4}$ in² B) 36π in²

C) $\frac{847\pi}{8}$ in² D) 16π in²

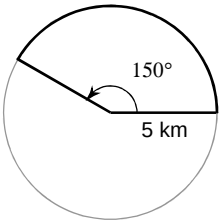
56)



A) 20π m² B) $\frac{20\pi}{3}$ m²

C) $\frac{75\pi}{2}$ m² D) $\frac{15\pi}{2}$ m²

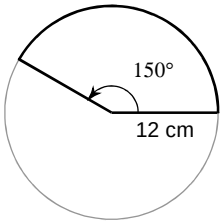
57)



A) 15π km² B) $\frac{51\pi}{8}$ km²

C) $\frac{55\pi}{6}$ km² D) $\frac{125\pi}{12}$ km²

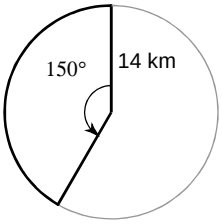
58)



A) $\frac{11\pi}{2}$ cm² B) 60π cm²

C) $\frac{51\pi}{4}$ cm² D) $\frac{7\pi}{6}$ cm²

59)



A) $\frac{1083\pi}{8}$ km²

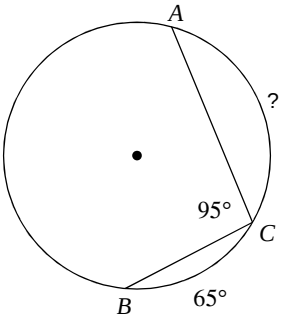
B) $\frac{35\pi}{3}$ km²

C) $\frac{245\pi}{3}$ km²

D) 29400π km²

Find the measure of the arc or angle indicated.

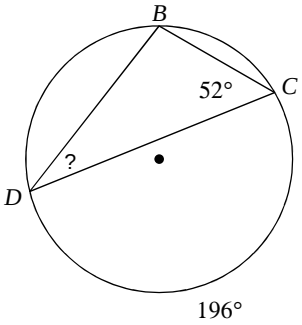
60)



A) 92° B) 105°

C) 96° D) 55°

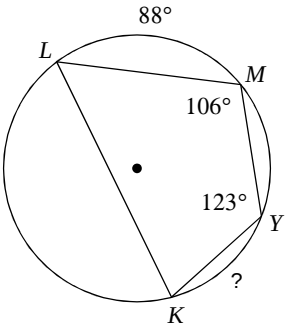
61)



A) 31° B) 30°

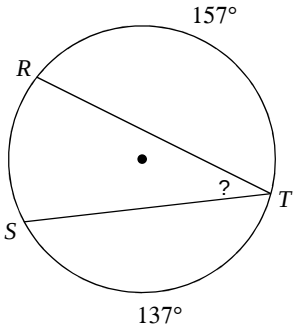
C) 34° D) 24°

62)



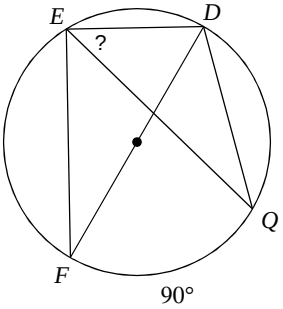
A) 40° B) 54°
C) 49° D) 48°

63)



A) 33° B) 24°
C) 32° D) 23°

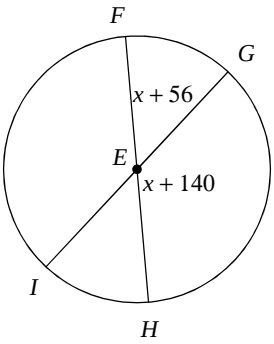
64)



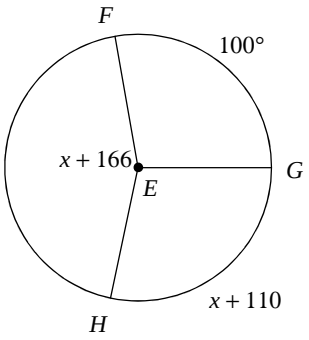
A) 56° B) 48°
C) 32° D) 45°

Find the measure of the arc or central angle indicated. Assume that lines which appear to be diameters are actual diameters.

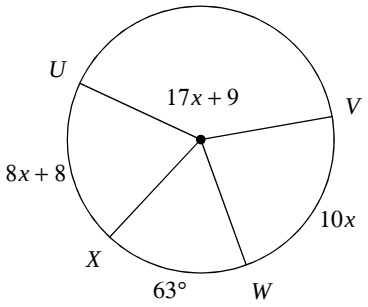
65) $m\angle FEG$



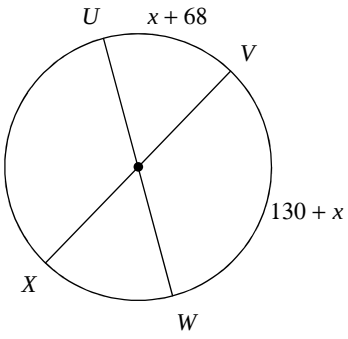
66) $m\angle HEF$



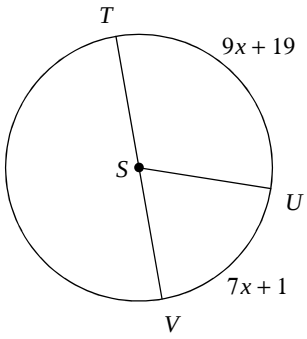
67) $m\widehat{XU}$



68) $m\widehat{WXV}$

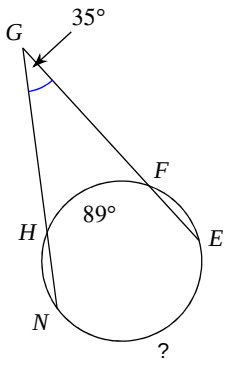


69) $m\angle TSU$

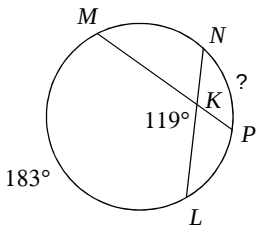


Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

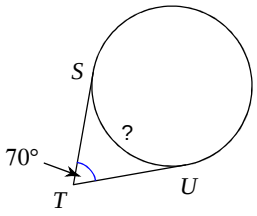
70)



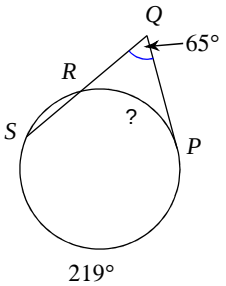
71)



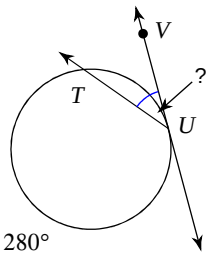
72)



73)

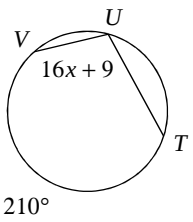


74)

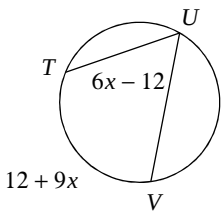


Solve for *x*. Assume that lines which appear tangent are tangent.

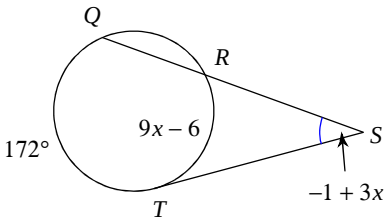
75)



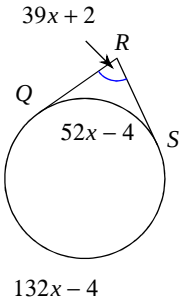
76)



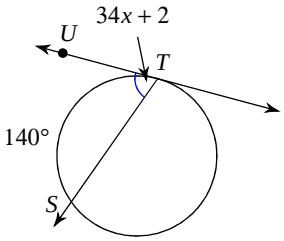
77)



78)

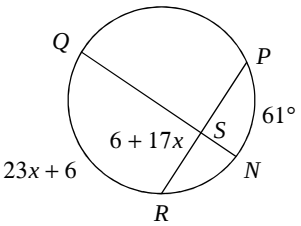


79)

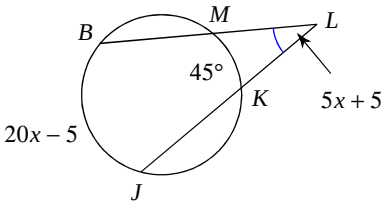


Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

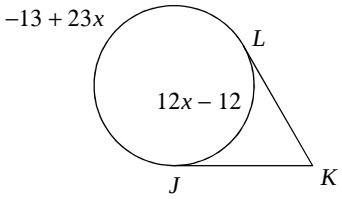
80) Find $m\angle RSQ$



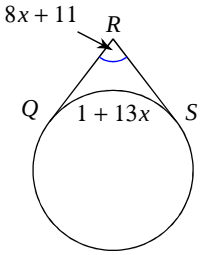
81) Find $m\angle JLB$



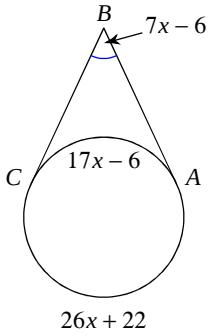
82) Find $m\angle JKL$



83) Find $m\angle QRS$



84) Find $m\angle ABC$



Use the information provided to write the standard form equation of each circle.

85) Center: $(-6, 4)$
Radius: 8

A) $(x+3)^2+(y-4)^2=64$
B) $(x+6)^2+(y-4)^2=64$
C) $(x-6)^2+(y+4)^2=64$
D) $(x-4)^2+(y-6)^2=64$

86) Center: $(-14, -14)$
Radius: 1

A) $(x-14)^2+(y-14)^2=1$
B) $(x+14)^2+(y+14)^2=1$
C) $(x-12)^2+(y+15)^2=1$
D) $(x+14)^2+(y-13)^2=1$

87) Center: $(16, -4)$
Point on Circle: $(17, -4)$

A) $(x-16)^2+(y-4)^2=1$
B) $(x-4)^2+(y+16)^2=9$
C) $(x-16)^2+(y+4)^2=9$
D) $(x-16)^2+(y+4)^2=1$

88) Center: $(13, 16)$
Point on Circle: $(10, 16)$

A) $(x+13)^2+(y-16)^2=9$
B) $(x+13)^2+(y+16)^2=81$
C) $(x-17)^2+(y+14)^2=9$
D) $(x-13)^2+(y-16)^2=9$

89) Center: $(8, 11)$
Tangent to $y = 13$

A) $(x-8)^2 + (y+11)^2 = 4$
B) $(x-8)^2 + (y-11)^2 = 4$
C) $(x+11)^2 + (y-8)^2 = 4$
D) $(x+8)^2 + (y+11)^2 = 16$

90) Center: $(1, -4)$
Tangent to $x = -5$

A) $(x-1)^2 + (y+4)^2 = 36$
B) $(x-4)^2 + (y+1)^2 = 36$
C) $(x+4)^2 + (y+1)^2 = 36$
D) $x^2 + (y+4)^2 = 1296$

91) Center: $(11, 2)$
Tangent to $y = 5$

A) $(x-9)^2 + (y+3)^2 = 81$
B) $(x-11)^2 + (y-2)^2 = 9$
C) $(x-11)^2 + (y-2)^2 = 81$
D) $(x+3)^2 + (y+9)^2 = 9$

92) Center: $(5, -12)$
Tangent to $x = 11$

A) $(x+10)^2 + (y+3)^2 = 36$
B) $(x-4)^2 + (y-14)^2 = 36$
C) $(x-5)^2 + (y+12)^2 = 36$
D) $(x+12)^2 + (y+5)^2 = 1296$

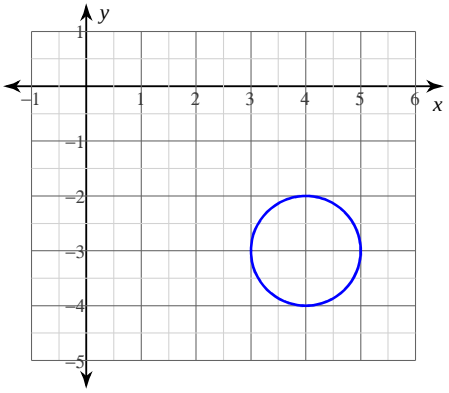
93) Ends of a diameter: $(-1, -2)$ and $(-4, 6)$

A) $\left(x+\frac{5}{2}\right)^2 + (y-2)^2 = \frac{73}{4}$
B) $\left(x+\frac{5}{2}\right)^2 + (y+2)^2 = 324$
C) $(x+4)^2 + \left(y+\frac{1}{2}\right)^2 = \frac{73}{4}$
D) $\left(x+\frac{5}{2}\right)^2 + (y+2)^2 = \frac{73}{4}$

94) Ends of a diameter: $(7, 0)$ and $(-11, -8)$

A) $(x+4)^2 + (y-2)^2 = 9409$
B) $(x-4)^2 + (y-3)^2 = 97$
C) $(x+2)^2 + (y+4)^2 = 97$
D) $(x+2)^2 + (y+4)^2 = 9409$

95)



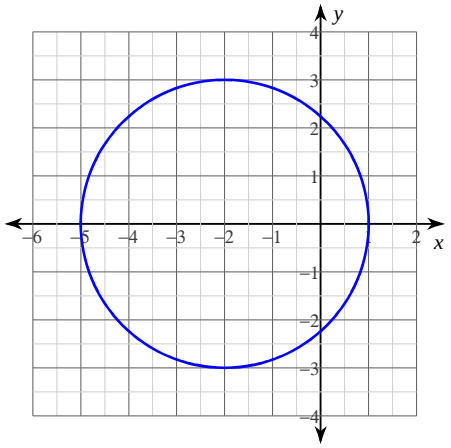
A) $(x+3)^2+(y+6)^2=1$

B) $(x-4)^2+(y+3)^2=4$

C) $(x-4)^2+(y+3)^2=1$

D) $(x-4)^2+(y-5)^2=1$

96)



A) $(x-2)^2+(y-1)^2=9$

B) $(x-1)^2+(y-2)^2=9$

C) $(x+2)^2+y^2=9$

D) $(x+2)^2+y^2=81$

97) $x^2+y^2+2x-26y+166=0$

A) $(x-1)^2+(y+12)^2=4$

B) $(x+1)^2+(y-13)^2=1$

C) $(x+1)^2+(y-13)^2=16$

D) $(x+1)^2+(y-13)^2=4$

98) $x^2+y^2-18x+32=0$

A) $(x+2)^2+(y+9)^2=49$

B) $(x-1)^2+(y-7)^2=16$

C) $(x+1)^2+(y-11)^2=1$

D) $(x-9)^2+y^2=49$

99) Center lies on the x-axis
Tangent to $y=-2$ and $x=14$

A) $(x-16)^2+y^2=4$

B) $(x-16)^2+y^2=16$

C) $(x-15)^2+(y+1)^2=16$

D) $x^2+(y-16)^2=16$

100) Center lies in the third quadrant
Tangent to $x=-11$, $x=-19$, and $y=-2$

A) $(x-6)^2+(y-15)^2=256$

B) $(x+15)^2+(y+6)^2=16$

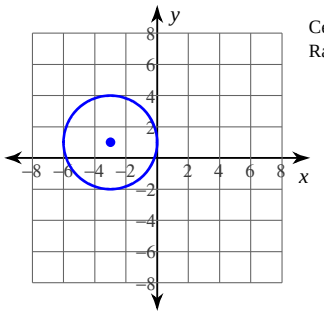
C) $(x-15)^2+(y-6)^2=16$

D) $(x+15)^2+(y+6)^2=256$

Identify the center and radius of each. Then sketch the graph.

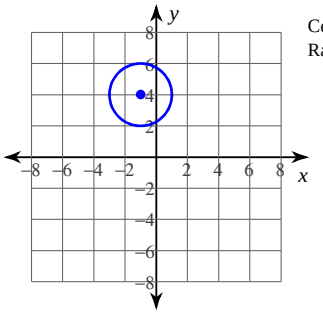
101) $(x+4)^2+(y+1)^2=9$

A)



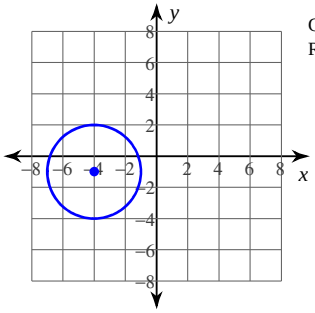
Center: $(-3, 1)$
Radius: 3

B)



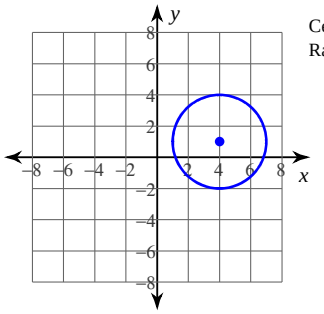
Center: $(-1, 4)$
Radius: 2

C)



Center: $(-4, -1)$
Radius: 3

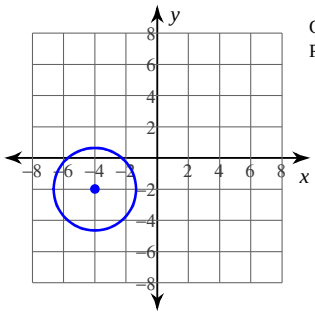
D)



Center: $(4, 1)$
Radius: 3

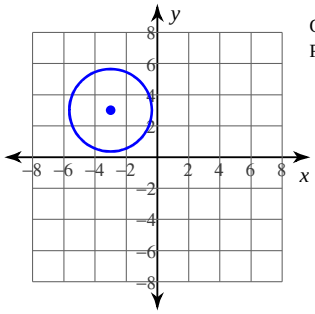
102) $(x+4)^2+(y+2)^2=7$

A)



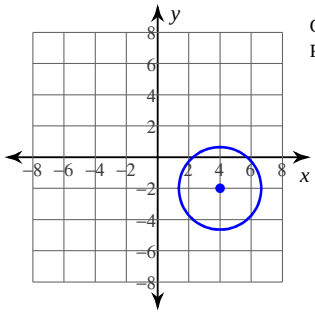
Center: $(-4, -2)$
Radius: $\sqrt{7}$

B)



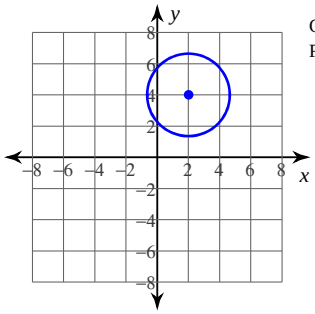
Center: $(-3, 3)$
Radius: $\sqrt{7}$

C)



Center: $(4, -2)$
Radius: $\sqrt{7}$

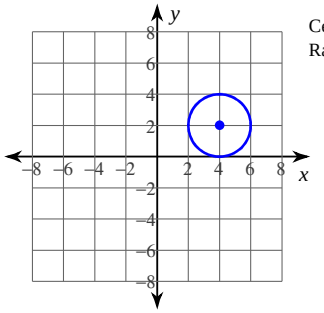
D)



Center: $(2, 4)$
Radius: $\sqrt{7}$

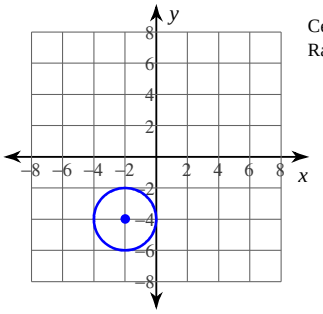
103) $x^2 + y^2 + 8x - 4y + 16 = 0$

A)



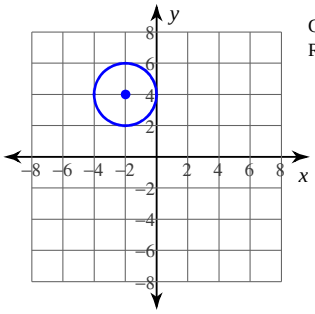
Center: (4, 2)
Radius: 2

B)



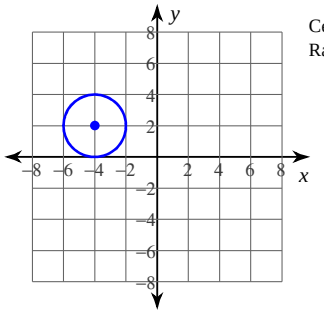
Center: (–2, –4)
Radius: 2

C)



Center: (–2, 4)
Radius: 2

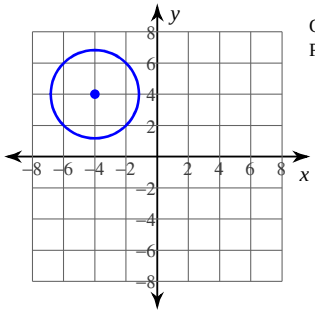
D)



Center: (–4, 2)
Radius: 2

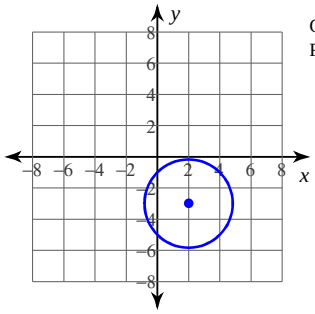
104) $x^2 + y^2 - 8x + 8y + 24 = 0$

A)



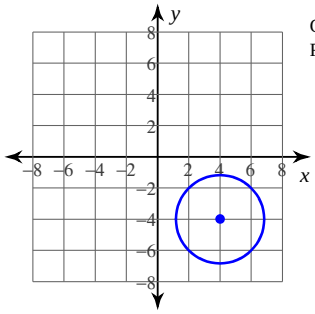
Center: (–4, 4)
Radius: $2\sqrt{2}$

B)



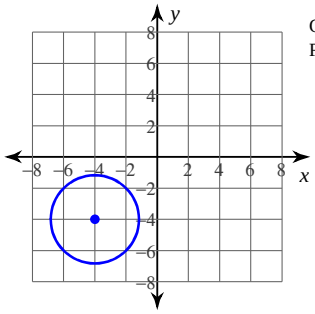
Center: (2, –3)
Radius: $2\sqrt{2}$

C)



Center: (4, –4)
Radius: $2\sqrt{2}$

D)



Center: (–4, –4)
Radius: $2\sqrt{2}$

Find the value that completes the square and then rewrite as a perfect square.

105) $y^2 - 42y + \_\_$

A) $-21;\ (y-21)^2$

B) $\frac{1}{9};\ \left(y+\frac{1}{3}\right)^2$

C) $\frac{169}{4};\ \left(y-\frac{13}{2}\right)^2$

D) $441;\ (y-21)^2$

106) $p^2 - 8p + \_\_$

A) $\frac{289}{4};\ \left(p-\frac{17}{2}\right)^2$

B) $\frac{81}{4};\ \left(p-\frac{9}{2}\right)^2$

C) $-16;\ (p-4)^2$

D) $16;\ (p-4)^2$

107) $r^2 + 21r + \_\_$

A) $\frac{441}{4};\ \left(r+\frac{21}{2}\right)^2$

B) $169;\ (r+13)^2$

C) $49;\ (r+7)^2$

D) $441;\ \left(r+\frac{21}{2}\right)^2$

108) $x^2 + 26x + \_\_$

A) $676;\ (x+13)^2$

B) $\frac{361}{4};\ \left(x+\frac{19}{2}\right)^2$

C) $169;\ (x+13)^2$

D) $\frac{169}{4};\ \left(x+\frac{13}{2}\right)^2$

Solve each equation by completing the square.

109) $a^2 - 14a + 43 = -4$

A) $\{7+\sqrt{2}, 7-\sqrt{2}\}$

B) $\{4, -16\}$

C) $\{11, 7\}$

D) $\{-5+\sqrt{46}, -5-\sqrt{46}\}$

110) $x^2 - 10x - 9 = 2$

A) $\{-5, -11\}$

B) $\{5+\sqrt{14}, 5-\sqrt{14}\}$

C) $\{-5+\sqrt{14}, -5-\sqrt{14}\}$

D) $\{11, -1\}$

111) $x^2 - 2x - 55 = -7$

A) $\{2, -10\}$

B) $\{2+2\sqrt{13}, 2-2\sqrt{13}\}$

C) $\{8, -6\}$

D) $\{-8+2\sqrt{21}, -8-2\sqrt{21}\}$

112) $k^2 + 20k + 31 = 9$

A) $\{11, 7\}$

B) $\{-3+\sqrt{109}, -3-\sqrt{109}\}$

C) $\{-10+\sqrt{78}, -10-\sqrt{78}\}$

D) $\{-6+2\sqrt{34}, -6-2\sqrt{34}\}$

Simplify.

113) $\frac{-3-7i}{9i}$

A) $\frac{11i}{9}$ B) $\frac{i-7}{9}$

C) $\frac{8i}{9}$ D) $\frac{3i-7}{9}$

114) $\frac{-10-9i}{4i}$

A) $\frac{7i-9}{4}$ B) $\frac{10i-9}{4}$

C) $\frac{21i}{4}$ D) $\frac{-10-9i}{3}$

115) $\frac{8-8i}{10-10i}$

A) $\frac{44-4i}{61}$ B) $\frac{4}{5}$

C) $\frac{-1-i}{20}$ D) $\frac{-1-i}{5}$

116) $\frac{4+3i}{3+10i}$

A) $\frac{39-21i}{109}$ B) $\frac{30-100i}{109}$

C) $\frac{9-90i}{101}$ D) $\frac{42-31i}{109}$

117) $\frac{-6-9i}{10+10i}$

A) $\frac{-5-9i}{17}$ B) $\frac{-15-3i}{20}$

C) $\frac{-6-9i}{22}$ D) $\frac{-168-57i}{269}$

118) $\frac{4}{10+\sqrt{3}}$

A) $\frac{40-4\sqrt{3}}{97}$ B) $\frac{49-9\sqrt{3}}{97}$

C) $\frac{40-4\sqrt{3}}{99}$ D) $\frac{40-4\sqrt{3}}{89}$

119) $\frac{\sqrt{6}+\sqrt{7}}{-3+3\sqrt{3}}$

A) $\frac{\sqrt{7}+\sqrt{21}+3+3\sqrt{3}}{6}$

B) $\frac{5\sqrt{6}+9\sqrt{2}+5\sqrt{7}+3\sqrt{21}}{2}$

C) $\frac{\sqrt{6}+3\sqrt{2}+3\sqrt{7}}{2}$

D) $\frac{\sqrt{6}+3\sqrt{2}+\sqrt{7}+\sqrt{21}}{6}$

120) $(-4-i)+(6+5i)$

A) $10+6i$ B) $2-6i$

C) $2+4i$ D) $4i$

121) $(2-5i)-(-4-2i)$

A) $14+i$ B) $6-7i$

C) $6-3i$ D) $2-3i$

Classify each conic section and write its equation in standard form. For circles, ellipses, and hyperbolas identify the center.

122) $x^2 + 2x + y + 2 = 0$

A) Parabola
$y = (x + 1)^2 + 1$

B) Parabola
$y = (x + 1)^2 - 1$

C) Parabola
$y = -(x + 1)^2 - 1$

D) Parabola
$y = -(x - 1)^2 - 1$

123) $y^2 + 4x + 6y + 13 = 0$

A) Parabola
$x = -\frac{1}{4}(y + 3)^2 - 1$

B) Circle
$(x - 3)^2 + (y - 2)^2 = 16$
Center: $(3, 2)$

C) Parabola
$y = 2(x + 1)^2 - 5$

D) Parabola
$x = -\frac{1}{4}(y + 3)^2 + 1$

124) $2x^2 + 2y^2 + 14x + 14y + 47 = 0$

A) Circle

$\left(x - \frac{7}{2}\right)^2 + \left(y - \frac{11}{2}\right)^2 = 1$

Center: $\left(\frac{7}{2}, \frac{11}{2}\right)$

B) Circle

$\left(x - \frac{7}{2}\right)^2 + \left(y - \frac{7}{2}\right)^2 = 9$

Center: $\left(\frac{7}{2}, \frac{7}{2}\right)$

C) Hyperbola

$\left(x + \frac{7}{2}\right)^2 - \left(y + \frac{7}{2}\right)^2 = 1$

Center: $\left(-\frac{7}{2}, -\frac{7}{2}\right)$

D) Circle

$\left(x + \frac{7}{2}\right)^2 + \left(y + \frac{7}{2}\right)^2 = 1$

Center: $\left(-\frac{7}{2}, -\frac{7}{2}\right)$

125) $4x^2 + 4y^2 - 4y - 83 = 0$

A) Hyperbola

$\frac{x^2}{21} - \frac{\left(y - \frac{1}{2}\right)^2}{21} = 1$

Center: $\left(0, \frac{1}{2}\right)$

B) Hyperbola

$\frac{\left(y - \frac{1}{2}\right)^2}{21} - \frac{x^2}{21} = 1$

Center: $\left(0, \frac{1}{2}\right)$

C) Circle

$x^2 + \left(y - \frac{1}{2}\right)^2 = 21$

Center: $\left(0, \frac{1}{2}\right)$

D) Parabola

$x = -2(y - 3)^2 + 1$

126) $x^2 - 2x + y + 2 = 0$

A) Parabola

$y = -(x - 1)^2 - 1$

B) Parabola

$y = (x - 1)^2 - 1$

C) Parabola

$x = -y^2 + 3$

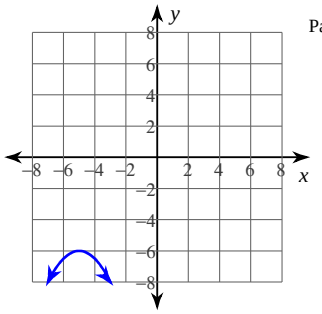
D) Parabola

$y = -2(x + 3)^2$

Classify each conic section and sketch its graph. For circles, ellipses, and hyperbolas identify the center.

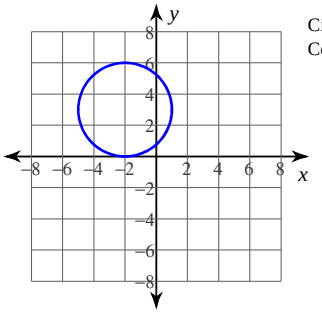
127) $x^2 + y^2 + 8x - 8y + 23 = 0$

A)



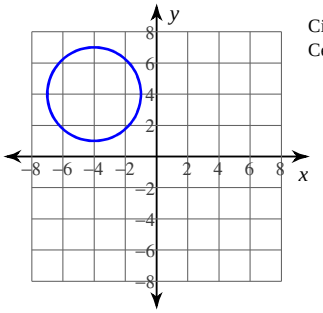
Parabola

B)



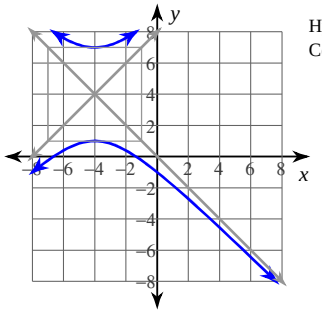
Circle
Center: $(-2, 3)$

C)



Circle
Center: $(-4, 4)$

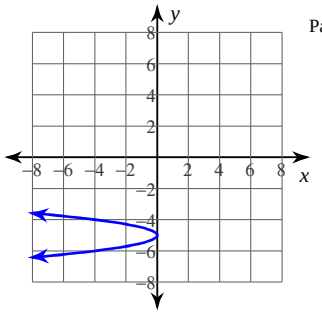
D)



Hyperbola
Center: $(-4, 4)$

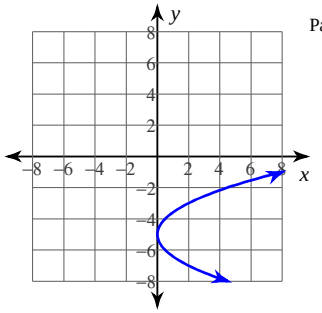
128) $4y^2 + x + 40y + 100 = 0$

A)



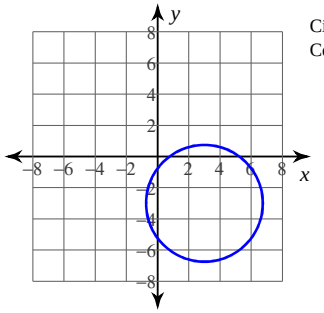
Parabola

B)



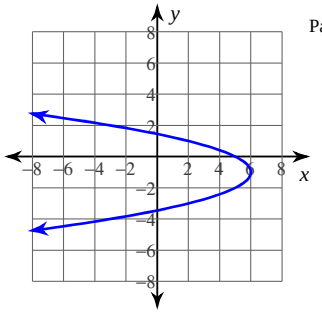
Parabola

C)



Circle
Center: $(3, -3)$

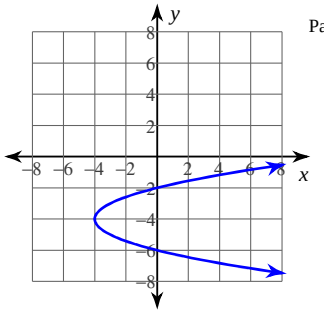
D)



Parabola

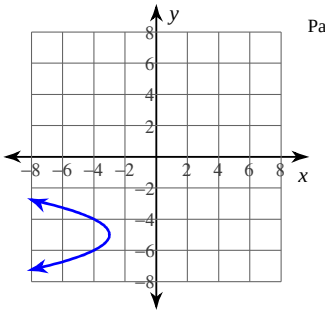
129) $y^2 + x + 10y + 28 = 0$

A)



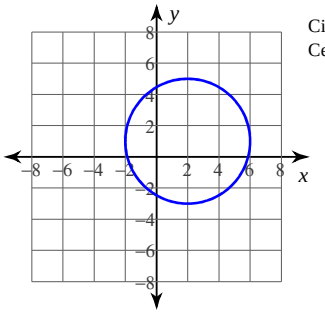
Parabola

B)



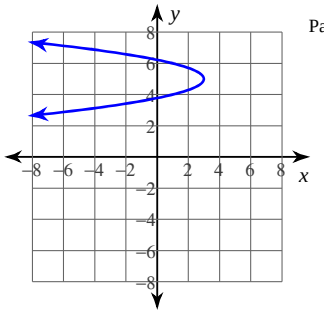
Parabola

C)



Circle
Center: (2, 1)

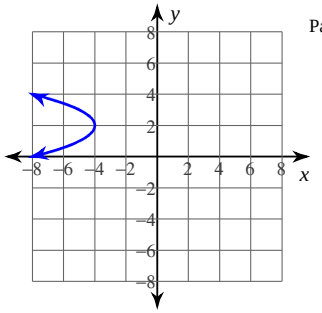
D)



Parabola

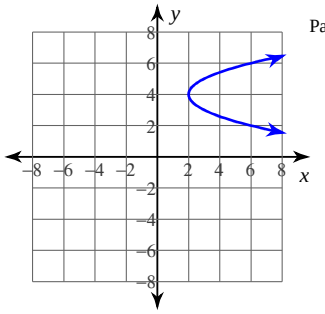
130) $y^2 + x - 4y + 8 = 0$

A)



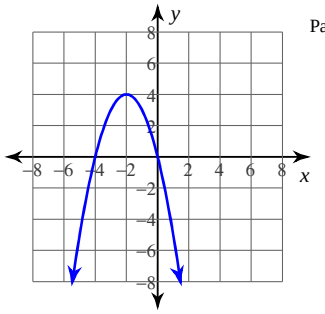
Parabola

B)



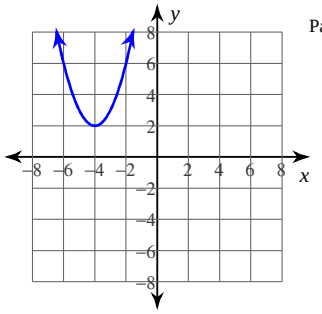
Parabola

C)



Parabola

D)

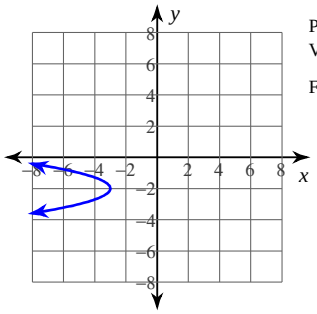


Parabola

Classify each conic section and sketch its graph. For parabolas, identify the vertex and focus. For ellipses and hyperbolas identify the vertices and foci.

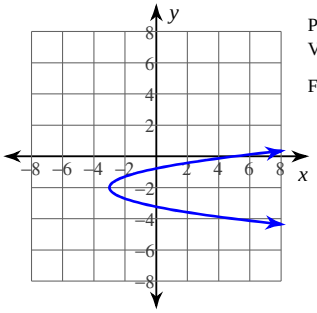
131) $2y^2 + x + 8y + 11 = 0$

A)



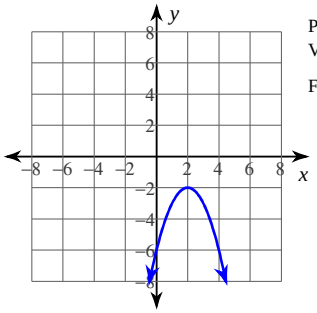
Parabola
Vertex: $(-3, -2)$
Focus: $\left(-\frac{25}{8}, -2\right)$

B)



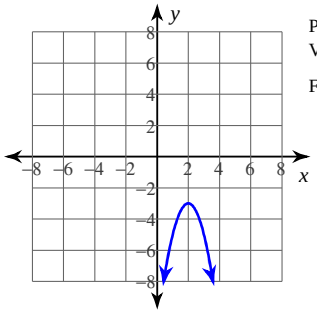
Parabola
Vertex: $(-3, -2)$
Focus: $\left(-\frac{23}{8}, -2\right)$

C)



Parabola
Vertex: $(2, -2)$
Focus: $\left(2, -\frac{9}{4}\right)$

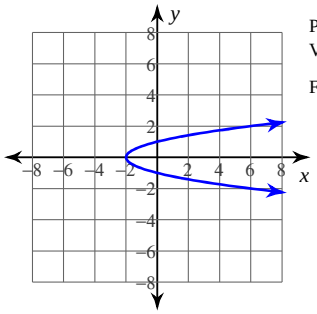
D)



Parabola
Vertex: $(2, -3)$
Focus: $\left(2, -\frac{25}{8}\right)$

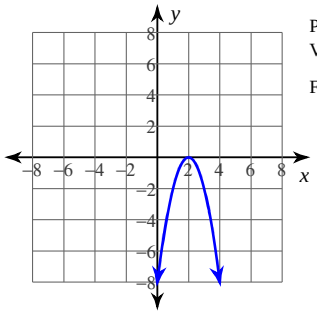
132) $-2y^2 + x + 2 = 0$

A)



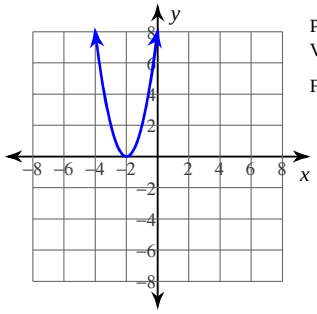
Parabola
Vertex: $(-2, 0)$
Focus: $\left(-\frac{15}{8}, 0\right)$

B)



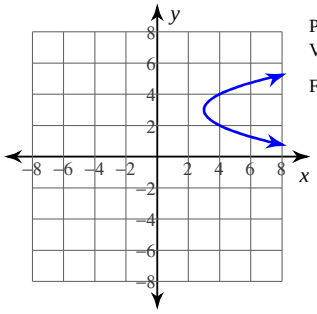
Parabola
Vertex: $(2, 0)$
Focus: $\left(2, -\frac{1}{8}\right)$

C)



Parabola
Vertex: $(-2, 0)$
Focus: $\left(-2, \frac{1}{8}\right)$

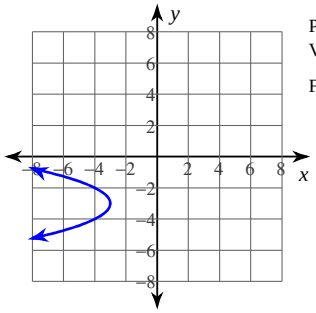
D)



Parabola
Vertex: $(3, 3)$
Focus: $\left(\frac{13}{4}, 3\right)$

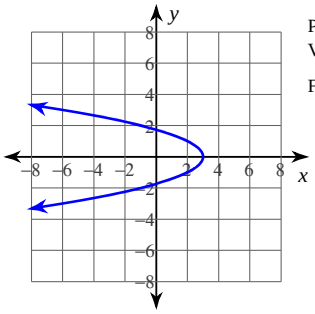
133) $-x^2 - 6x + y - 6 = 0$

A)



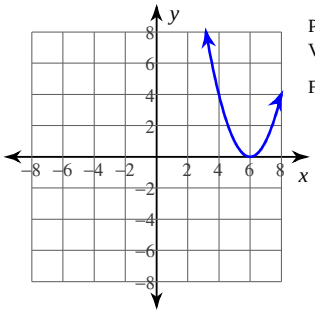
Parabola
Vertex: $(-3, -3)$
Focus: $\left(-\frac{13}{4}, -3\right)$

B)



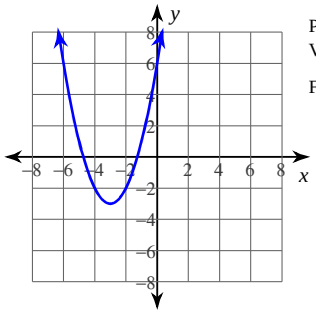
Parabola
Vertex: $(3, 0)$
Focus: $\left(\frac{11}{4}, 0\right)$

C)



Parabola
Vertex: $(6, 0)$
Focus: $\left(6, \frac{1}{4}\right)$

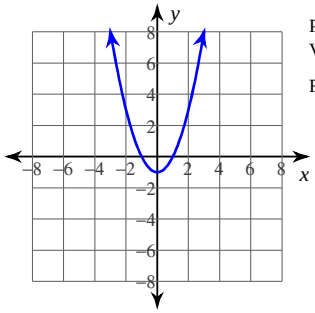
D)



Parabola
Vertex: $(-3, -3)$
Focus: $\left(-3, -\frac{11}{4}\right)$

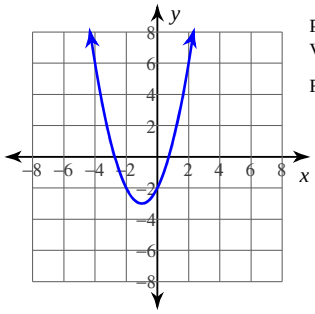
134) $x^2 + 2x + y - 2 = 0$

A)



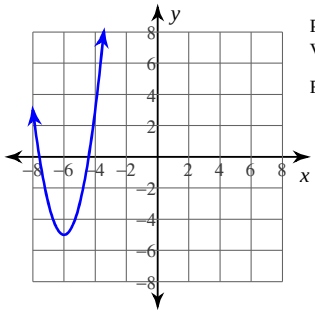
Parabola
Vertex: $(0, -1)$
Focus: $\left(0, -\frac{3}{4}\right)$

B)



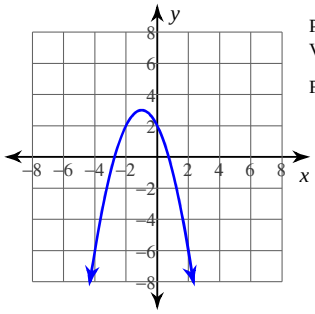
Parabola
Vertex: $(-1, -3)$
Focus: $\left(-1, -\frac{11}{4}\right)$

C)



Parabola
Vertex: $(-6, -5)$
Focus: $\left(-6, -\frac{39}{8}\right)$

D)



Parabola
Vertex: $(-1, 3)$
Focus: $\left(-1, \frac{11}{4}\right)$

Use the information provided to write the general conic form equation of each parabola.

135) Vertex: $(0, 6)$, Focus: $\left(-\frac{1}{4}, 6\right)$

A) $-y^2 + 2x - 12 = 0$
B) $y^2 + x + 6 = 0$
C) $y^2 + x - 6 = 0$
D) $y^2 + x - 12y + 36 = 0$

Solve each system of equations.

136) $x^2 + y^2 + 9x + 5y + 13 = 0$
$3x + y + 3 = 0$

A) $(-6, 4), (3, 9)$
B) No solution.
C) $(3, 9)$
D) $(-6, 4), (-2, -10)$

137) $x^2 + y^2 - 51x + 3y + 80 = 0$
$-3x + y + 3 = 0$

A) $(4, 9)$
B) $(4, -9)$
C) $(2, 3), (4, 9)$
D) $(2, 3), (4, -9)$

138) $x^2 + y^2 - 11x - 3y + 8 = 0$
$x + y = 0$

A) $(2, -2)$
B) $(2, -2), (2, 5)$
C) $(2, 5), (2, 6)$
D) $(2, 5)$

139) $x^2 + y^2 + x - 14y + 38 = 0$
$x + 3y = -4$

A) $(1, -2), (0, 1)$
B) No solution.
C) $(2, 8)$
D) $(1, -2)$

140) $4x^2 + 3y^2 - 3x + 9y + 6 = 0$
$x - y - 3 = 0$

A) $(-8, -5), (-9, -4)$
B) $(-9, -4)$
C) No solution.
D) $(-9, -4), (10, 0)$

State if the point given is a solution to the system of equations.

141) $x^2 - y^2 + 6x - 7y - 7 = 0$
$-x^2 + 3y^2 - 6x + 21y + 7 = 0$
Point: $(1, -7)$

A) Yes B) No

142) $y^2 + x - 16y + 58 = 0$
$x^2 + y^2 - 6x - 16y + 68 = 0$
Point: $(7, 5)$

A) Yes B) No

Find the discriminant of each quadratic equation then state the number and type of solutions.

143) $-n^2 - 4n - 4 = 0$

A) 0; one real solution
B) 32; two real solutions
C) 0; two imaginary solutions
D) 0; two real solutions

144) $-4b^2 + 4b - 1 = 0$

A) 32; two imaginary solutions
B) 0; one real solution
C) 32; two real solutions
D) 65; two imaginary solutions

145) $5x^2 = 3x - 6$

A) −111; two imaginary solutions
B) 153; two real solutions
C) 129; one real solution
D) 289; two real solutions

146) $-2v^2 - 8 = 8v$

A) 0; two imaginary solutions
B) −100; two imaginary solutions
C) 0; two real solutions
D) 0; one real solution

147) $2n^2 + 8n + 17 = 10 + 5n$

A) 65; two imaginary solutions
B) −47; two real solutions
C) −47; two imaginary solutions
D) −47; one real solution

148) $4a^2 - 3a = -5$

A) 37; two real solutions
B) −71; two real solutions
C) −71; two imaginary solutions
D) −135; two imaginary solutions

Solve each equation by factoring.

149) $x^2 - 3x + 2 = 0$

A) $\{1, 2\}$ B) $\{-8, 6\}$
C) $\{4, 1\}$ D) $\{-2\}$

150) $n^2 - n - 6 = -6$

A) $\{2, 0\}$ B) $\{1, 0\}$
C) $\{-1, 0\}$ D) $\{-1, 1\}$

151) $p^2 - 4 = -3p$

A) $\{1, -4\}$ B) $\{-1, -8\}$
C) $\{-8, -6\}$ D) $\{-3, -5\}$

152) $m^2 = -15 - 8m$

A) $\{-3, 3\}$ B) $\{-3, -5\}$
C) $\{-4, 1\}$ D) $\{-3, 0\}$

153) $-2n^2 + 12n = -3n^2 - 21 + 2n$

A) $\{-7, -8\}$ B) $\{-7, -2\}$
C) $\{5, -6\}$ D) $\{-7, -3\}$

Solve each equation with the quadratic formula.

154) $6m^2 = 21 + 5m$

A) $\left\{\frac{5+\sqrt{101}}{2}, \frac{5-\sqrt{101}}{2}\right\}$

B) $\left\{\frac{-5+\sqrt{101}}{2}, \frac{-5-\sqrt{101}}{2}\right\}$

C) $\left\{\frac{7}{3}, -\frac{3}{2}\right\}$

D) $\left\{\frac{5+2\sqrt{11}}{2}, \frac{5-2\sqrt{11}}{2}\right\}$

155) $3r^2 + 7r = -5$

A) $\left\{\frac{1+i\sqrt{19}}{4}, \frac{1-i\sqrt{19}}{4}\right\}$

B) $\left\{\frac{-7+i\sqrt{11}}{6}, \frac{-7-i\sqrt{11}}{6}\right\}$

C) $\{1 + 2i, 1 - 2i\}$

D) $\{-1 + 2i, -1 - 2i\}$

Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

156) $\left(\frac{nm^4 \cdot m^{-\frac{1}{4}} n^{-\frac{3}{4}}}{m^2}\right)^2$

A) 1

B) $m^{\frac{7}{2}} n^{\frac{1}{2}}$

C) $\frac{n^{\frac{1}{8}} m^{\frac{15}{16}}}{n^2}$

D) $\frac{m^{\frac{1}{2}} n^{\frac{7}{3}}}{m^8}$

157) $\frac{(mn)^{-\frac{5}{4}} \cdot n^{\frac{2}{3}}}{m^{\frac{7}{4}} n^{-\frac{3}{4}}}$

A) $\frac{m^{\frac{1}{12}} n^{\frac{11}{48}}}{m^2}$

B) $n^{\frac{1}{4}} m^{\frac{7}{3}}$

C) $\frac{n^{\frac{1}{6}}}{m^3}$

D) $\frac{m^{\frac{3}{8}} n^{\frac{5}{2}}}{m}$

158) $\frac{\left(y^{\frac{1}{3}}\right)^2}{x^{-2} y^{-\frac{3}{2}} \cdot x^{-\frac{5}{3}}}$

A) $\frac{x^{\frac{2}{3}}}{x^2 y^2}$

B) $y^{\frac{8}{3}} x^{\frac{17}{6}}$

C) $\frac{y^{\frac{1}{3}} x^{\frac{1}{3}}}{y^7}$

D) $x^{\frac{11}{3}} y^{\frac{13}{6}}$

159) $\frac{x^{\frac{3}{4}} y^{\frac{1}{2}}}{\left(x^{\frac{1}{3}} y^2\right)^2 \cdot \left(x^{\frac{1}{4}} y^{\frac{2}{3}}\right)^{\frac{2}{3}}}$

A) $x^5 y^{\frac{2}{3}}$

B) $\frac{x^{\frac{11}{12}} y^{\frac{1}{18}}}{xy^4}$

C) $\frac{x^{\frac{1}{2}}}{y^8 x^{14}}$

D) $\frac{y^{\frac{1}{2}} x^{\frac{1}{8}}}{yx^5}$

160) $\left(\dfrac{x^{\frac{7}{4}} \cdot x^{\frac{1}{2}} y^{0}}{x^{-\frac{3}{2}} y^{-2}} \right)^{0}$

A) $\dfrac{y^{\frac{3}{2}} x^{\frac{1}{2}}}{x}$

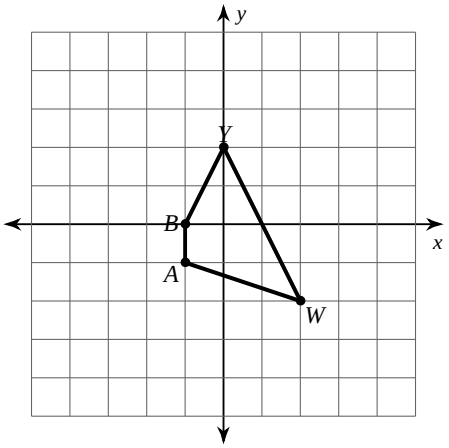
B) $\dfrac{y^{\frac{2}{3}}}{y^{4} x}$

C) 1

D) $\dfrac{y^{\frac{5}{12}} x^{\frac{1}{2}}}{yx}$

Find the coordinates of the vertices of each figure after the given transformation.

161) dilation of 1.5



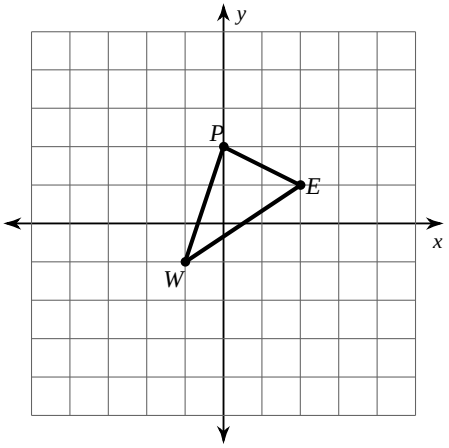
A) $A'(-2, -2), B'(-2, 0), Y'(0, 4), W'(4, -4)$

B) $A'(-1.5, -1.5), B'(-1.5, 0), Y'(0, 3), W'(3, -3)$

C) $A'(-0.25, -0.25), B'(-0.25, 0), Y'(0, 0.5), W'(0.5, -0.5)$

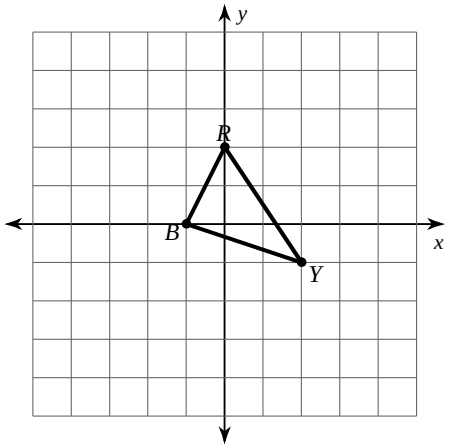
D) $A'(-2.5, -2.5), B'(-2.5, 0), Y'(0, 5), W'(5, -5)$

162) dilation of $\frac{1}{4}$



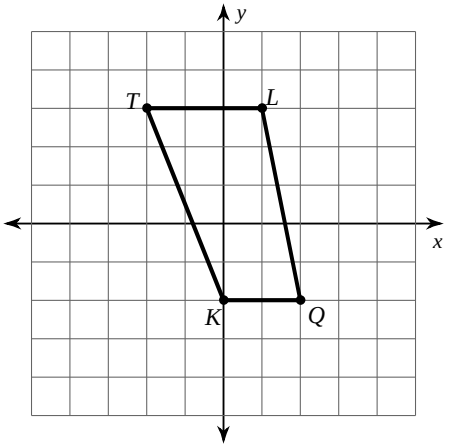
A) $W'(-2, -2)$, $P'(0, 4)$, $E'(4, 2)$
B) $W'(-1.5, -1.5)$, $P'(0, 3)$, $E'(3, 1.5)$
C) $W'(-2.5, -2.5)$, $P'(0, 5)$, $E'(5, 2.5)$
D) $W'(-0.25, -0.25)$, $P'(0, 0.5)$, $E'(0.5, 0.25)$

163) dilation of 2



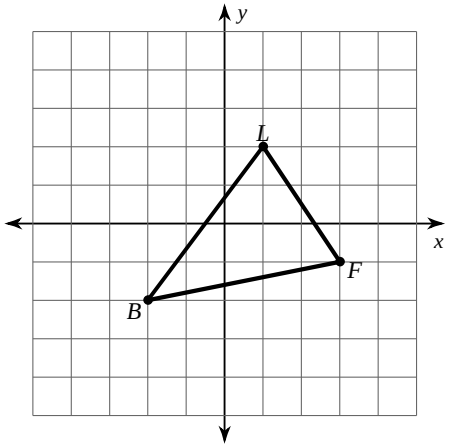
A) $B'(-0.5, 0)$, $R'(0, 1)$, $Y'(1, -0.5)$
B) $B'(-2.5, 0)$, $R'(0, 5)$, $Y'(5, -2.5)$
C) $B'(-1.5, 0)$, $R'(0, 3)$, $Y'(3, -1.5)$
D) $B'(-2, 0)$, $R'(0, 4)$, $Y'(4, -2)$

164) dilation of 1.5



A) $T'(-2, -3)$, $L'(1, -3)$, $Q'(2, 2)$, $K'(0, 2)$
B) $K'(0, -3)$, $T'(-3, 4.5)$, $L'(1.5, 4.5)$, $Q'(3, -3)$
C) $T'(-3, 2)$, $L'(-3, -1)$, $Q'(2, -2)$, $K'(2, 0)$
D) $K'(0, -1)$, $T'(-1, 1.5)$, $L'(0.5, 1.5)$, $Q'(1, -1)$

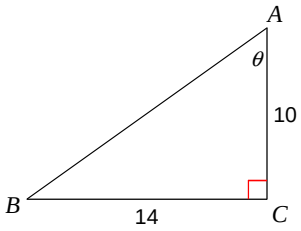
165) dilation of 1.5



A) $B'(-1, -1)$, $L'(0.5, 1)$, $F'(1.5, -0.5)$
B) $B'(-0.5, -0.5)$, $L'(0.25, 0.5)$, $F'(0.75, -0.25)$
C) $B'(-3, -3)$, $L'(1.5, 3)$, $F'(4.5, -1.5)$
D) $B'(2, 2)$, $L'(-1, -2)$, $F'(-3, 1)$

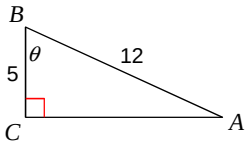
Find the measure of each angle indicated. Round to the nearest tenth.

166)



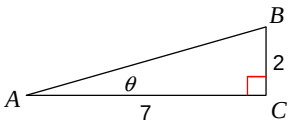
A) 38.8° B) 59°
C) 54.5° D) 53.2°

167)



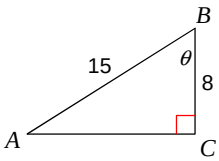
A) 68.3° B) 73.3°
C) 65.4° D) 69.8°

168)



A) 20.5° B) 15.9°
C) 17.3° D) 19.8°

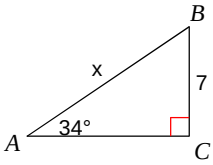
169)



A) 63.3° B) 50.1°
C) 73.6° D) 57.8°

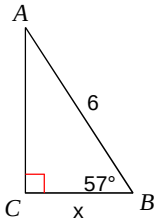
Find the measure of each side indicated. Round to the nearest tenth.

170)



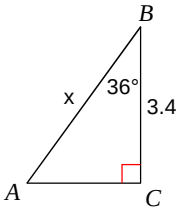
A) 15.5 B) 13.9
C) 11 D) 12.5

171)



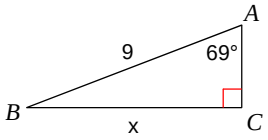
A) 4.4 B) 3
C) 3.3 D) 2.6

172)



A) 4.2 B) 4.5
C) 5.3 D) 3.9

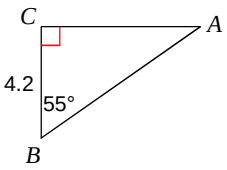
173)



A) 8.6 B) 7
C) 8.4 D) 8.1

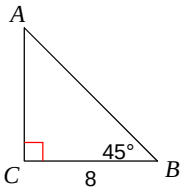
Solve each triangle. Round answers to the nearest tenth.

174)



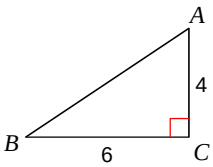
A) $m\angle A = 35°,\ b = 6,\ c = 9.1$
B) $m\angle A = 35°,\ b = 6,\ c = 7.3$
C) $m\angle A = 35°,\ b = 6.6,\ c = 7.3$
D) $m\angle A = 35°,\ b = 6,\ c = 8.1$

175)



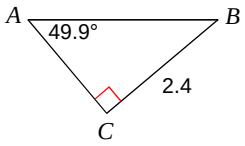
A) $m\angle A = 45°,\ b = 8,\ c = 11.3$
B) $m\angle A = 45°,\ b = 10.3,\ c = 11.3$
C) $m\angle A = 45°,\ b = 9.4,\ c = 11.3$
D) $m\angle A = 45°,\ b = 9.8,\ c = 12.5$

176)



A) $m\angle B = 33.7°,\ m\angle A = 56.3°,\ c = 7.2$
B) $m\angle B = 30.8°,\ m\angle A = 59.2°,\ c = 7.2$
C) $m\angle B = 34.3°,\ m\angle A = 55.7°,\ c = 7.2$
D) $m\angle B = 33.2°,\ m\angle A = 56.8°,\ c = 7.2$

177)



A) $m\angle B = 40.1°,\ b = 2,\ c = 3.1$
B) $m\angle B = 40.1°,\ b = 1.2,\ c = 3.1$
C) $m\angle B = 40.1°,\ b = 2,\ c = 3.3$
D) $m\angle B = 40.1°,\ b = 2,\ c = 3.9$

In each problem, angle C is a right angle. Solve each triangle rounding answers to the nearest tenth.

178) $b = 7,\ c = 13.6$

A) $m\angle B = 28.9°,\ m\angle A = 61.1°,\ a = 11.7$
B) $m\angle B = 33.1°,\ m\angle A = 56.9°,\ a = 11.7$
C) $m\angle B = 31°,\ m\angle A = 59°,\ a = 11.7$
D) $m\angle B = 30.4°,\ m\angle A = 59.6°,\ a = 11.7$

179) $c = 12,\ m\angle A = 64°$

A) $m\angle B = 26°,\ b = 6.1,\ a = 10.8$
B) $m\angle B = 26°,\ b = 5.3,\ a = 10.8$
C) $m\angle B = 26°,\ b = 6.1,\ a = 11.6$
D) $m\angle B = 26°,\ b = 5.3,\ a = 7.8$

180) $c = 10,\ m\angle B = 36°$

A) $m\angle A = 54°,\ b = 5.3,\ a = 8.9$
B) $m\angle A = 54°,\ b = 5.9,\ a = 8.1$
C) $m\angle A = 54°,\ b = 6.1,\ a = 8.1$
D) $m\angle A = 54°,\ b = 5.6,\ a = 8.9$

181) $a = 15,\ m\angle B = 47°$

A) $m\angle A = 43°,\ b = 19.2,\ c = 20.9$
B) $m\angle A = 43°,\ b = 16.1,\ c = 22$
C) $m\angle A = 43°,\ b = 18.4,\ c = 22$
D) $m\angle A = 43°,\ b = 16.1,\ c = 25.1$

Find the value of each. Round your answers to the nearest ten-thousandth.

182) sin 58°

A) 0.5299 B) 1.8871
C) 0.6249 D) 0.8480

183) tan 50°

A) 1.3054 B) 1.1918
C) 0.6428 D) 1.5557

184) cos 20°

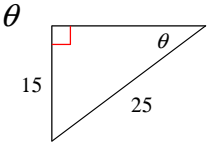
A) 0.9397 B) 0.1228
C) 1.0642 D) 2.7475

185) sin 11°

A) 0.9816 B) 0.1944
C) 0.1908 D) 5.1446

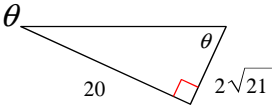
Find the value of the trig function indicated.

186) sin θ



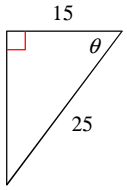
A) $\frac{3}{5}$ B) $\frac{4}{3}$
C) $\frac{5}{3}$ D) $\frac{5}{4}$

187) tan θ



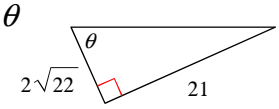
A) $\frac{5}{4}$ B) $\frac{11\sqrt{21}}{21}$
C) $\frac{10\sqrt{21}}{21}$ D) $\frac{11}{10}$

188) tan θ



A) $\frac{5}{4}$ B) $\frac{3}{5}$
C) $\frac{5}{3}$ D) $\frac{4}{3}$

189) tan θ



A) $\frac{4}{5}$ B) $\frac{21}{23}$
C) $\frac{23}{21}$ D) $\frac{21\sqrt{22}}{44}$

In each triangle ABC, angle C is a right angle. Find the value of the trig function indicated.

190) Find cos A if $c = 10,\ a = 8$

A) $\frac{4}{3}$ B) $\frac{5}{3}$
C) $\frac{15}{8}$ D) $\frac{3}{5}$

191) Find sin A if $b = 15,\ c = 17$

A) $\frac{8}{15}$ B) $\frac{15}{17}$
C) $\frac{8}{17}$ D) $\frac{17}{8}$

192) Find sin A if $b = 12,\ c = 6\sqrt{13}$

A) $\frac{3}{2}$ B) $\frac{\sqrt{13}}{3}$
C) $\frac{2\sqrt{13}}{13}$ D) $\frac{3\sqrt{13}}{13}$

193) Find sin A if $a = 4,\ b = 16$

A) $\frac{4\sqrt{17}}{17}$ B) $\frac{\sqrt{17}}{17}$
C) $\sqrt{17}$ D) $\frac{\sqrt{17}}{4}$

Find the value of the trig function indicated.

194) Find $\cos\theta$ if $\tan\theta = \frac{12}{5}$

A) $\frac{5}{13}$ B) $\frac{2}{3}$

C) $\frac{13}{12}$ D) $\frac{13}{5}$

195) Find $\cos\theta$ if $\sin\theta = \frac{4}{5}$

A) $\frac{4}{3}$ B) $\frac{3}{4}$

C) $\frac{3}{5}$ D) $\frac{5}{4}$

196) Find $\tan\theta$ if $\sin\theta = \frac{3\sqrt{13}}{13}$

A) $\frac{\sqrt{13}}{2}$ B) $\frac{2}{3}$

C) $\frac{2\sqrt{13}}{13}$ D) $\frac{3}{2}$

197) Find $\cos\theta$ if $\sin\theta = \frac{3\sqrt{7}}{8}$

A) $\frac{\sqrt{7}}{21}$ B) $\frac{3\sqrt{7}}{8}$

C) $\frac{1}{8}$ D) 8

Answers to Assignment (ID: 1)

1) A
2) D
3) C
4) D
5) D
6) D
7) B
8) A
9) A
10) D
11) D
12) C
13) D
14) D
15) A
16) B
17) B
18) A
19) D
20) B
21) D
22) D
23) C
24) C
25) B
26) A
27) A
28) A
29) A
30) A
31) D
32) A
33) D
34) D
35) B
36) C
37) A
38) A
39) D
40) B
41) D
42) B
43) D
44) A
45) C
46) D
47) D
48) A
49) B
50) C
51) B
52) C
53) C
54) B
55) C
56) C
57) D
58) B
59) C
60) B
61) B
62) B
63) A
64) D
65) 48°
66) 158°
67) 72°
68) 239°
69) 109°
70) 159°
71) 55°
72) 110°
73) 89°
74) 40°
75) 6
76) 12
77) 12
78) 2
79) 2
80) 91°
81) 35°
82) 60°
83) 75°
84) 50°
85) B
86) B
87) D
88) D
89) B
90) A
91) B
92) C
93) A
94) C
95) C
96) C
97) D
98) D
99) A
100) B
101) C
102) A
103) D
104) C
105) D
106) D
107) A
108) C
109) A
110) D
111) C
112) C
113) D
114) B
115) B
116) D
117) B
118) A
119) D
120) C
121) C
122) C
123) A
124) D
125) C
126) A
127) C
128) A
129) B
130) A
131) A
132) A
133) D
134) D
135) D
136) B
137) C
138) A
139) B
140) C
141) A
142) B
143) A
144) B
145) A
146) D
147) C
148) C
149) A
150) B
151) A
152) B
153) D
154) C
155) B
156) B
157) C
158) D
159) B
160) C
161) B
162) D
163) D
164) B
165) C
166) C
167) C
168) B
169) D
170) D
171) C
172) A
173) C
174) B
175) A
176) A
177) A
178) C
179) B
180) B
181) B
182) D
183) B
184) A
185) C
186) A
187) C
188) D
189) D
190) D
191) C
192) D
193) B
194) A
195) C
196) D
197) C