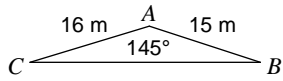


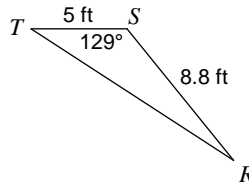
June Exam Review Material Set B

Find the area of each triangle to the nearest tenth.

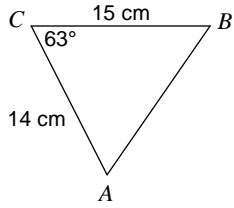
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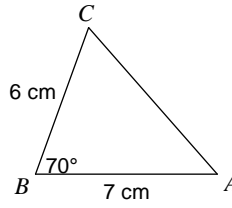
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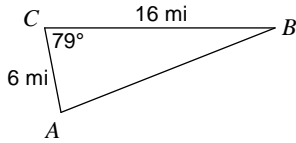
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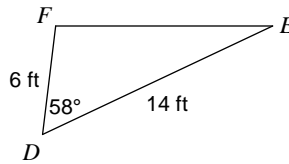
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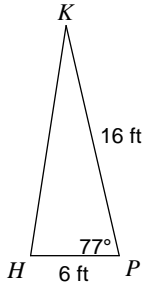
5)



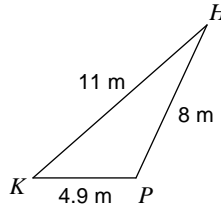
6)



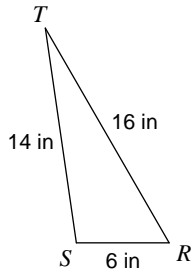
7)



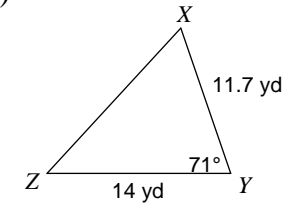
8)



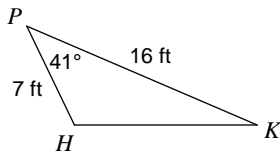
9)



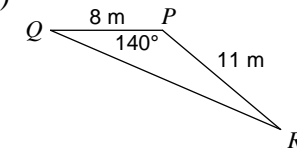
10)



11)

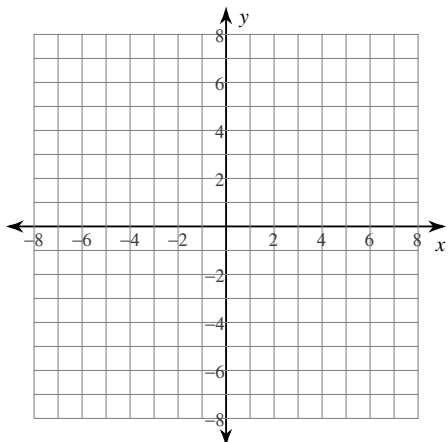


12)

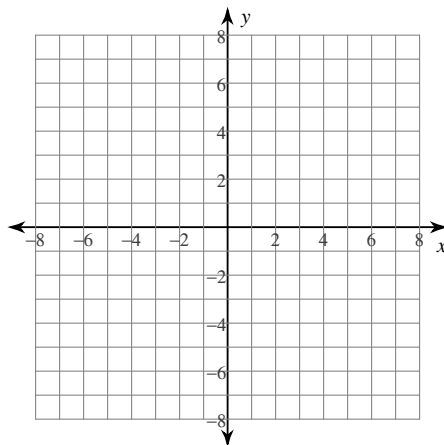


Identify the vertex, axis of symmetry, direction of opening, min/max value, y-intercept, and x-intercepts of each. Then sketch the graph.

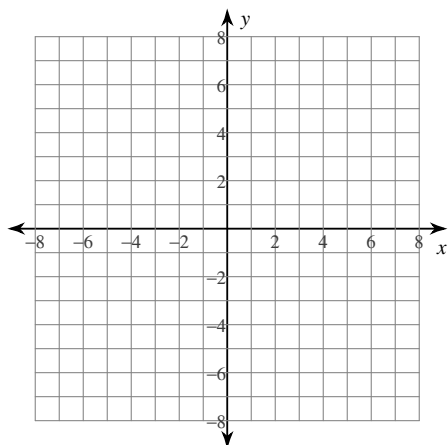
$$13) -3\left(y - \frac{1}{3}\right) = (x + 1)^2$$



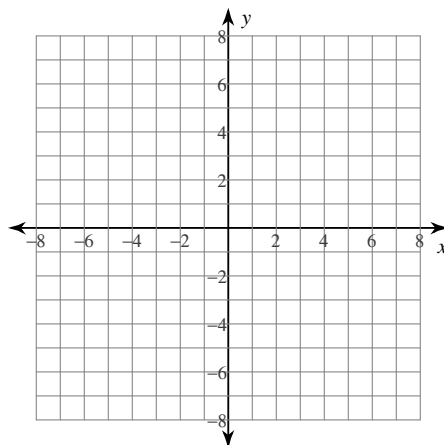
$$14) \frac{1}{2}\left(y + \frac{1}{2}\right) = \left(x - \frac{3}{2}\right)^2$$



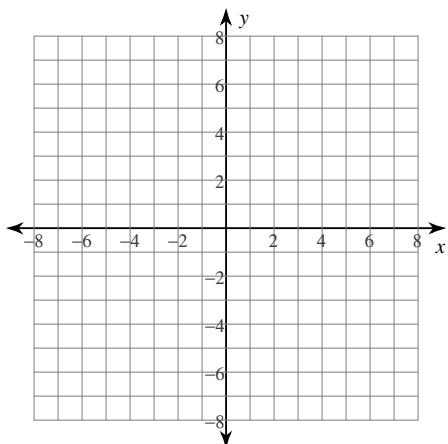
$$15) \frac{3}{2}\left(y + \frac{3}{2}\right) = \left(x + \frac{3}{2}\right)^2$$



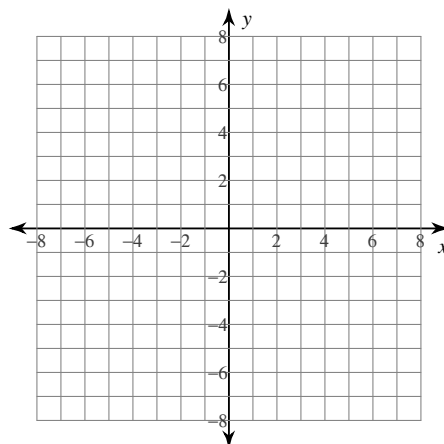
$$16) -\frac{8}{5}(y + 1) = (x - 6)^2$$



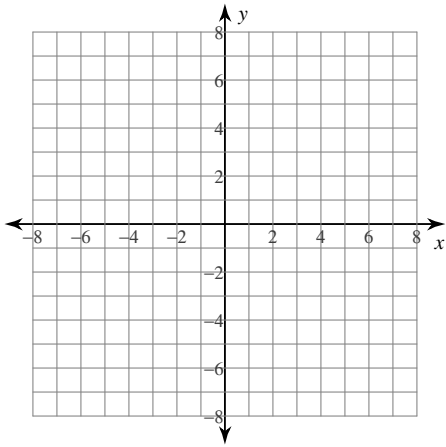
$$17) -4\left(y - \frac{1}{4}\right) = (x + 3)^2$$



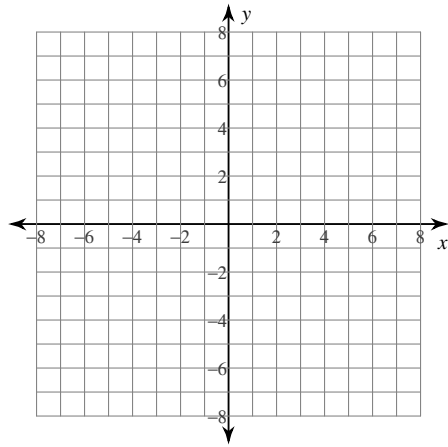
$$18) -\frac{5}{4}y = (x - 3)^2$$



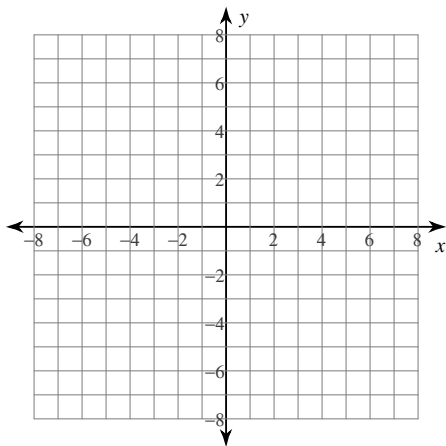
$$19) -(y - 1) = (x + 4)^2$$



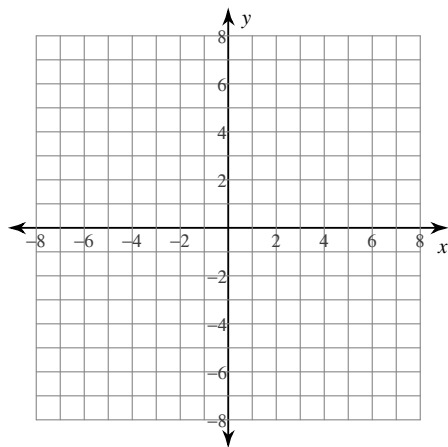
$$20) -3y = x^2$$



$$21) -\frac{5}{4}\left(y - \frac{4}{5}\right) = (x + 2)^2$$



$$22) y = (x + 2)^2$$

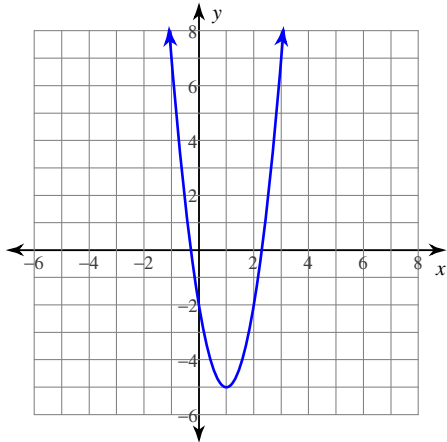


Use the information provided to write the vertex form equation of each parabola.

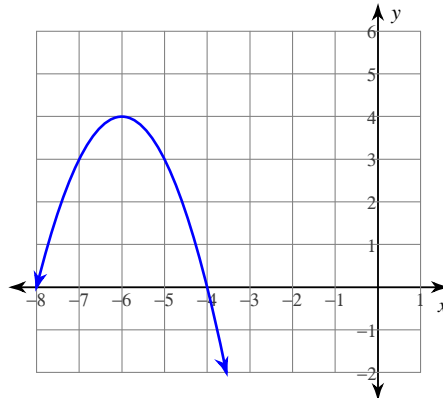
$$23) \text{Vertex: } (-1, -8), \text{y-intercept: } -\frac{129}{16}$$

$$24) \text{Vertex: } (10, 2), \text{y-intercept: } 102$$

25)



26)



Simplify.

$$27) \frac{2\sqrt{2} - 5\sqrt{3}}{\sqrt{12}}$$

$$28) \frac{5 - \sqrt{3}}{\sqrt{10}}$$

$$29) \frac{4 + 5\sqrt{3}}{2\sqrt{11}}$$

$$30) \frac{-1 - 3\sqrt{5}}{5\sqrt{19}}$$

$$31) \frac{-1 + 4\sqrt{5}}{\sqrt{5}}$$

$$32) \frac{-3 - \sqrt{5}}{3\sqrt{7}}$$

Solve each equation.

$$33) \frac{38}{15} = m + \frac{2}{3} + \frac{4}{3}m$$

$$34) \frac{5}{4}p + 4 - 3\frac{1}{2} = -\frac{5}{4}$$

$$35) -\frac{113}{30} = \frac{5}{3}n + \frac{7}{5} + \frac{1}{2}$$

$$36) \frac{4}{3}b - 2b = -\frac{4}{9}$$

$$37) -\frac{41}{20} = n - \frac{13}{4} + \frac{3}{5}n$$

$$38) \frac{119}{12} = -\frac{11}{3}n + \frac{3}{4}n$$

Solve each equation by factoring.

$$39) x^2 + 3x - 28 = 0$$

$$40) n^2 - 9n + 14 = 0$$

$$41) k^2 + 9k + 18 = 0$$

$$42) x^2 - 13x + 40 = 0$$

$$43) n^2 - 2n - 15 = 0$$

$$44) x^2 + 3x + 2 = 0$$

$$45) p^2 - 11p + 30 = 0$$

$$46) k^2 + 10k + 24 = 0$$

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

$$47) \frac{n^{-1} \cdot m^{\frac{1}{3}} n^{\frac{3}{4}}}{\left(m^{\frac{1}{2}} n^{-\frac{4}{3}}\right)^{-\frac{5}{3}}}$$

$$48) \frac{a^{-\frac{3}{2}} b^{-\frac{3}{2}}}{a^0 \left(a^{\frac{1}{2}} b^{-1}\right)^0}$$

$$49) \frac{(y^{-1})^{\frac{4}{3}} \cdot x^{-\frac{5}{3}} y^2}{y}$$

$$50) \frac{x^{\frac{4}{3}} y^0 \cdot x^{-2} y^{\frac{1}{2}}}{(x^0)^{\frac{4}{3}}}$$

$$51) \frac{\left(\frac{7}{b^4}\right)^{\frac{5}{4}} \cdot a^{\frac{1}{2}} b^{\frac{2}{3}}}{b^{-\frac{1}{2}}}$$

$$52) \frac{x^{\frac{3}{2}} y^{\frac{4}{3}} \cdot x^{\frac{3}{4}} y^{-1}}{\left(x^{-1} y^{-\frac{5}{3}}\right)^{\frac{-3}{2}}}$$

$$53) \frac{a^{-\frac{5}{4}} b^{\frac{1}{2}}}{\left(\frac{2}{a^3} b^{\frac{1}{2}}\right)^{\frac{4}{3}} b^{\frac{4}{3}}}$$

$$54) \frac{(b^{-1})^{\frac{5}{3}} (a^4 b^{-1})^{\frac{1}{2}}}{a^{\frac{3}{2}} b^{\frac{3}{2}}}$$

$$55) \frac{xy \cdot y}{\left(x^{-\frac{1}{3}} y^{\frac{5}{4}}\right)^{\frac{7}{4}}}$$

$$56) \left(\frac{a^{\frac{5}{3}} b^0}{a^0 b^{-2} \cdot b^2}\right)^{\frac{1}{3}}$$

$$57) \frac{(x^2)^{-2}}{y^0 \cdot xy^{\frac{1}{3}}}$$

$$58) \frac{a^{-\frac{1}{2}} b^{\frac{4}{3}} \cdot a^{-\frac{4}{3}} b^{\frac{3}{2}}}{\left(ab^{\frac{2}{3}}\right)^{\frac{7}{4}}}$$

Factor each completely.

$$59) -12x^2 - 6x + 168$$

$$60) -25n^3 + 155n^2 - 150n$$

$$61) 3k^2 + 31k + 56$$

$$62) -42m^2 + 66m - 24$$

Evaluate each function.

$$63) g(x) = x^2 + 3; \text{ Find } g(5)$$

$$64) g(x) = x^2 - 4x; \text{ Find } g(-9)$$

$$65) w(t) = -4t + 4; \text{ Find } w(-8)$$

$$66) f(n) = n^2 + 4n; \text{ Find } f(1)$$

$$67) g(a) = 4a + 3; \text{ Find } g(1)$$

$$68) f(x) = 3x + 4; \text{ Find } f(-6)$$

Perform the indicated operation.

69) $f(x) = x^3 - 3$
 $g(x) = x + 4$
Find $f(x) - 3g(x)$

70) $h(t) = 4t + 4$
 $g(t) = 3t - 3$
Find $5h(t) + 4g(t)$

71) $f(n) = n^2 - 4n$
 $g(n) = 2n - 3$
Find $f(n) + g(n)$

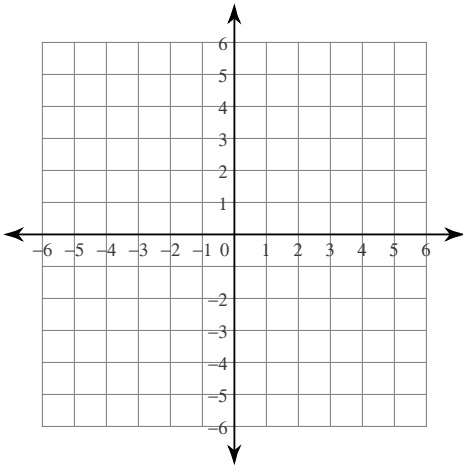
72) $h(a) = a + 5$
 $g(a) = a^3 + 1$
Find $(3h + 3g)(a)$

73) $g(t) = 4t$
 $f(t) = t^3 + 4t$
Find $g(t) - 4f(t)$

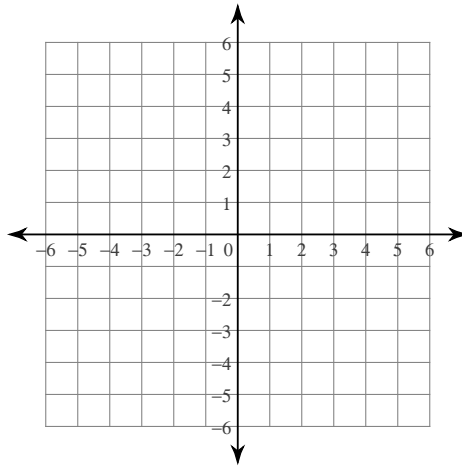
74) $f(x) = 4x - 1$
 $g(x) = x^2 + 2x$
Find $f(x) + g(x)$

Graph each equation.

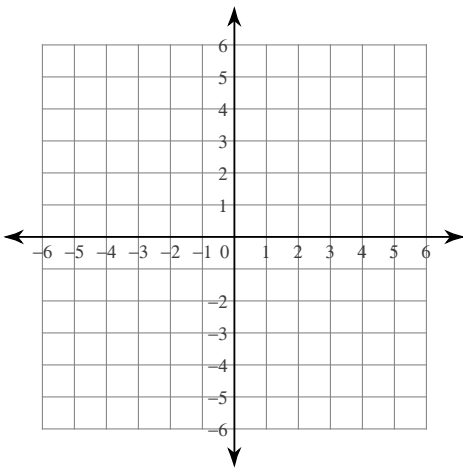
75) $y = |x - 2| + 4$



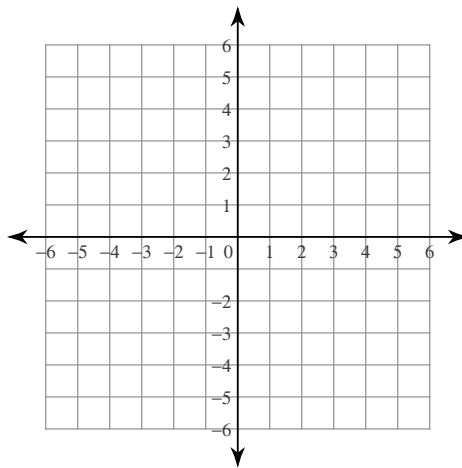
76) $y = |x - 1|$



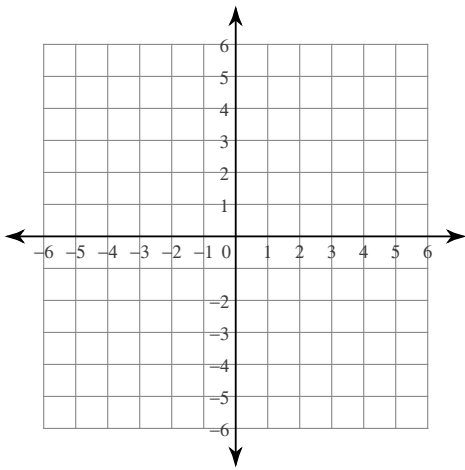
77) $y = -|x - 4|$



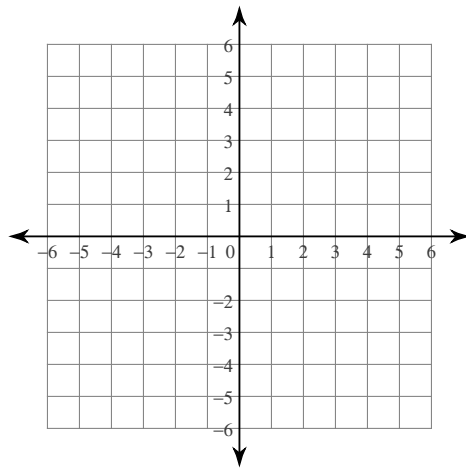
78) $y = |x - 2|$



79) $y = |x| + 3$

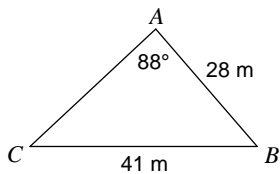


80) $y = |x - 3| + 4$

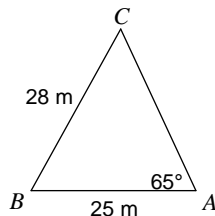


Find each measurement indicated. Round your answers to the nearest tenth.

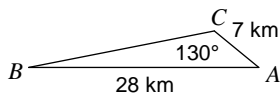
81) Find $m\angle C$



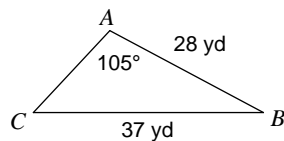
82) Find $m\angle C$



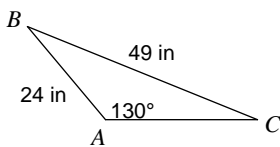
83) Find $m\angle B$



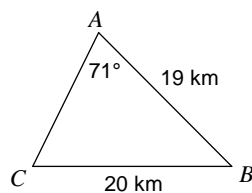
84) Find $m\angle C$



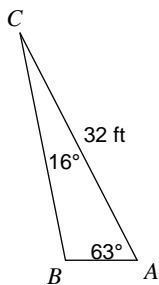
85) Find $m\angle C$



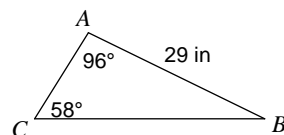
86) Find $m\angle C$



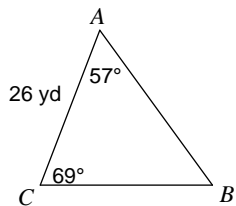
87) Find BC



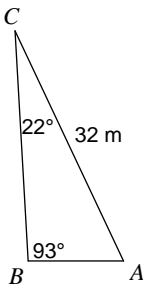
88) Find BC



89) Find BC

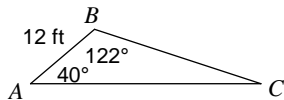


90) Find AB

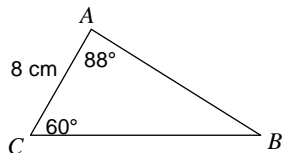


Solve each triangle. Round your answers to the nearest tenth.

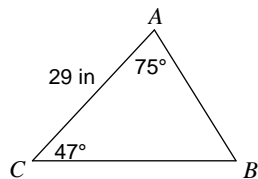
91)



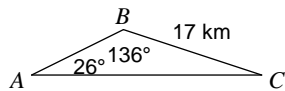
92)



93)

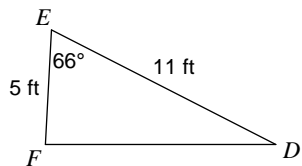


94)

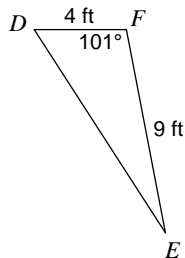


Find the area of each triangle to the nearest tenth.

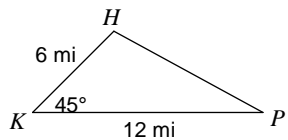
95)



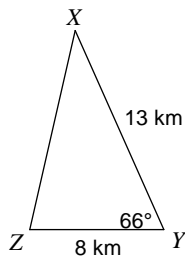
96)



97)



98)



Simplify. Write "undefined" for expressions that are undefined.

99) $\begin{bmatrix} 5 & 2 \\ 6 & -4 \end{bmatrix} \cdot \begin{bmatrix} 3 & 5 & -6 \\ 5 & -5 & 5 \end{bmatrix}$

100) $\begin{bmatrix} -4 & -3 \\ 1 & 3 \end{bmatrix} \cdot \begin{bmatrix} 5 & 2 & -6 \\ 4 & -6 & -1 \end{bmatrix}$

101) $\begin{bmatrix} 4 \\ 4 \end{bmatrix} \cdot \begin{bmatrix} 6 & 4 \end{bmatrix}$

102) $\begin{bmatrix} 2 & 6 \\ -6 & 0 \\ 3 & 4 \end{bmatrix} \cdot \begin{bmatrix} -5 & 1 \\ -4 & 4 \end{bmatrix}$

103) $\begin{bmatrix} -1 & -1 & -3 \\ -4 & -2 & -3 \end{bmatrix} \cdot \begin{bmatrix} -2 & -1 \\ -4 & -1 \\ -1 & -6 \end{bmatrix}$

104) $\begin{bmatrix} 5 & 2 \\ 1 & 0 \end{bmatrix} \cdot \begin{bmatrix} 3 & -2 \\ 3 & -2 \end{bmatrix}$

105) $\begin{bmatrix} 6 & -6 & -6 \\ 1 & 6 & 3 \end{bmatrix} \cdot \begin{bmatrix} -2 & 5 \\ -5 & 2 \\ 0 & 0 \end{bmatrix}$

106) $\begin{bmatrix} 2 & -6 \\ 0 & -3 \end{bmatrix} \cdot \begin{bmatrix} -2 & 5 & 1 \\ 4 & 5 & 4 \end{bmatrix}$

107) $\begin{bmatrix} -4 & 0 & -5 \\ 4 & -2 & -4 \end{bmatrix} \cdot \begin{bmatrix} -2 & -6 \\ 5 & -4 \\ -4 & -3 \end{bmatrix}$

108) $\begin{bmatrix} -4 & -3 \\ -6 & -3 \\ -3 & -1 \end{bmatrix} \cdot \begin{bmatrix} 6 & -5 \\ 5 & -1 \end{bmatrix}$

Simplify.

109) $4\sqrt{15} \cdot -5\sqrt{3}$

110) $\sqrt{7} \cdot \sqrt{8}$

111) $\sqrt{10} \cdot \sqrt{30}$

112) $-5\sqrt{18} \cdot -6\sqrt{48}$

113) $-8\sqrt{21} \cdot \sqrt{27}$

114) $5\sqrt{24} \cdot \sqrt{12}$

115) $\sqrt{6} \cdot \sqrt{6}$

116) $3\sqrt{7} \cdot 5\sqrt{8}$

Factor each.

117) $x^2 - 4x + 4 = 0$

118) $x^2 - x - 12 = 0$

119) $x^2 + 2x - 15 = 0$

120) $x^2 + 6x + 8 = 0$

121) $x^2 - 25 = 0$

122) $x^2 + 4x - 5 = 0$

123) $3x^2 - 13x + 4 = 0$

124) $5x^2 - 17x - 12 = 0$

125) $3x^2 - 7x - 20 = 0$

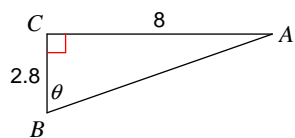
126) $5x^2 - 12x + 4 = 0$

127) $2x^2 + 7x + 3 = 0$

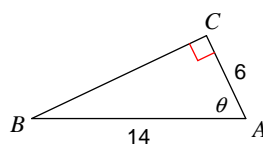
128) $3x^2 - 10x + 8 = 0$

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

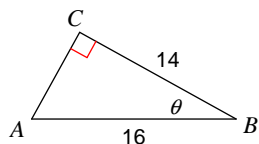
129)



130)

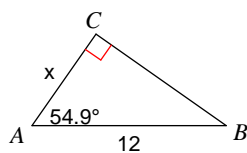


131)

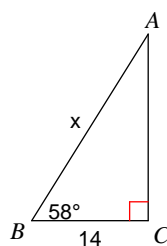


Find the measure of each side indicated. Round to the nearest tenth.

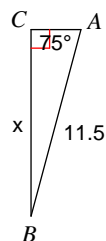
132)



133)

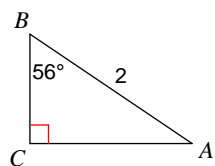


134)

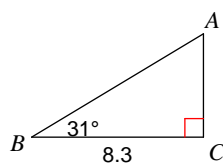


Solve each triangle. Round answers to the nearest tenth.

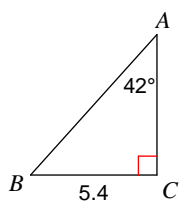
135)



136)



137)



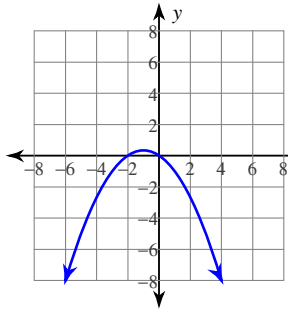
Answers to June Exam Review Material Set B

- 1) 68.8 m^2
 5) 47.1 mi^2
 9) 41.6 in^2
 13)

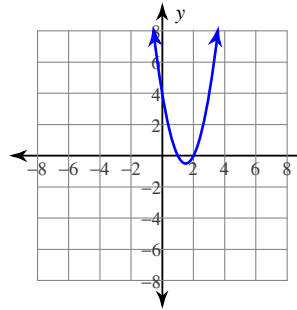
- 2) 17.1 ft^2
 6) 35.6 ft^2
 10) 77.4 yd^2

- 3) 93.6 cm^2
 7) 46.8 ft^2
 11) 36.7 ft^2
 14)

- 4) 19.7 cm^2
 8) 17.8 m^2
 12) 28.3 m^2

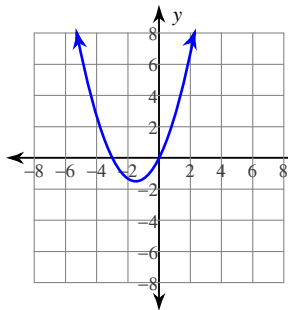


Vertex: $(-1, \frac{1}{3})$
 Axis of Sym.: $x = -1$
 Opens: Down
 Max value = $\frac{1}{3}$
 xy-int: 0
 x-int: 0 and -2



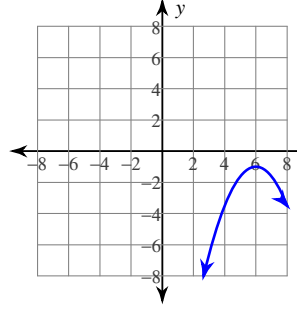
Vertex: $(\frac{3}{2}, -\frac{1}{2})$
 Axis of Sym.: $x = \frac{3}{2}$
 Opens: Up
 Min value = $-\frac{1}{2}$
 y-int: 4
 x-int: 1 and 2

15)



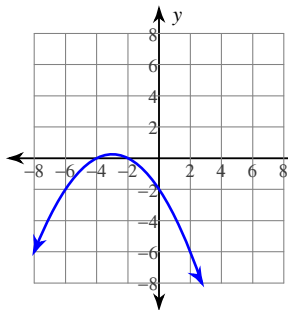
Vertex: $(-\frac{3}{2}, -\frac{3}{2})$
 Axis of Sym.: $x = -\frac{3}{2}$
 Opens: Up
 Min value = $-\frac{3}{2}$
 y-int: 0
 x-int: 0 and -3

16)



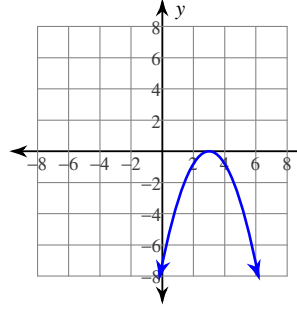
Vertex: $(6, -1)$
 Axis of Sym.: $x = 6$
 Opens: Down
 Max value = -1
 y-int: $-\frac{47}{2}$
 x-int: None

17)



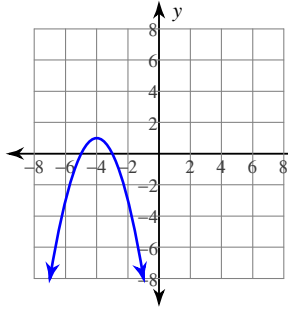
Vertex: $(-3, \frac{1}{4})$
 Axis of Sym.: $x = -3$
 Opens: Down
 Max value = $\frac{1}{4}$
 xy-int: -2
 x-int: -4 and -2

18)



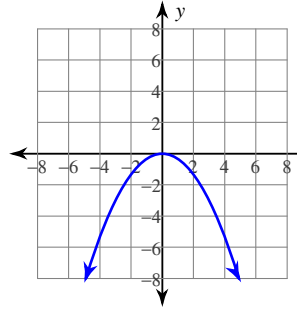
Vertex: $(3, 0)$
 Axis of Sym.: $x = 3$
 Opens: Down
 Max value = 0
 y-int: $-\frac{36}{5}$
 x-int: 3

19)



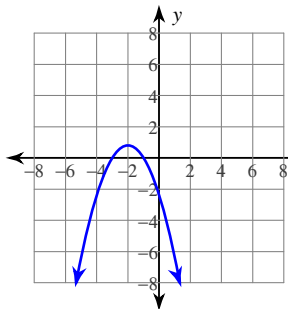
Vertex: $(-4, 1)$
 Axis of Sym.: $x = -4$
 Opens: Down
 Max value = 1
 y-int: -15
 x-int: -3 and -5

20)



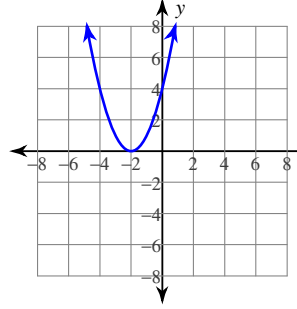
Vertex: $(0, 0)$
 Axis of Sym.: $x = 0$
 Opens: Down
 Max value = 0
 y-int: 0
 x-int: 0

21)



Vertex: $(-2, \frac{4}{5})$
 Axis of Sym.: $x = -2$
 Opens: Down
 Max value = $\frac{4}{5}$
 y-int: $-\frac{12}{5}$
 x-int: -1 and -3

22)



Vertex: $(-2, 0)$
 Axis of Sym.: $x = -2$
 Opens: Up
 Min value = 0
 y-int: 4
 x-int: -2

$$23) y = -\frac{1}{16}(x+1)^2 - 8$$

$$24) y = (x-10)^2 + 2$$

$$25) y = 3(x-1)^2 - 5$$

$$26) y = -(x+6)^2 + 4$$

$$27) \frac{2\sqrt{6} - 15}{6}$$

$$28) \frac{5\sqrt{10} - \sqrt{30}}{10}$$

$$29) \frac{4\sqrt{11} + 5\sqrt{33}}{22}$$

$$30) \frac{-\sqrt{19} - 3\sqrt{95}}{95}$$

$$31) \frac{-\sqrt{5} + 20}{5}$$

$$32) \frac{-3\sqrt{7} - \sqrt{35}}{21}$$

$$33) \left\{ \frac{4}{5} \right\}$$

$$34) \left\{ -\frac{7}{5} \right\}$$

$$35) \left\{ -\frac{17}{5} \right\}$$

$$36) \left\{ \frac{2}{3} \right\}$$

$$37) \left\{ \frac{3}{4} \right\}$$

$$38) \left\{ -\frac{17}{5} \right\}$$

$$39) \{4, -7\}$$

$$40) \{7, 2\}$$

$$41) \{-6, -3\}$$

$$42) \{8, 5\}$$

$$43) \{5, -3\}$$

$$44) \{-1, -2\}$$

$$45) \{5, 6\}$$

$$46) \{-6, -4\}$$

$$47) \frac{n^{19} m^7}{n^3}$$

$$48) \frac{a^{\frac{1}{2}} b^{\frac{1}{2}}}{a^2 b^2}$$

$$49) \frac{y^{\frac{2}{3}} x^3}{x^2 y}$$

$$50) \frac{x^{\frac{1}{3}} y^{\frac{1}{2}}}{x}$$

$$51) b^{\frac{161}{48}} a^{\frac{1}{2}}$$

$$52) \frac{y^{\frac{5}{6}} x^4}{y^3}$$

$$53) \frac{a^{\frac{1}{4}} b^{\frac{19}{24}}}{a^2 b^2}$$

$$54) \frac{b^{\frac{1}{3}} a^{\frac{1}{2}}}{b^4}$$

$$55) \frac{y^{\frac{13}{16}} x^{\frac{19}{12}}}{y}$$

$$56) a^{\frac{5}{9}}$$

$$57) \frac{y^3}{x^5 y}$$

$$58) \frac{a^{\frac{5}{12}} b^{\frac{5}{3}}}{a^4}$$

$$59) -6(2x-7)(x+4)$$

$$60) -5n(5n-6)(n-5)$$

$$61) (3k+7)(k+8)$$

$$62) -6(7m-4)(m-1)$$

$$63) 28$$

$$64) 117$$

$$65) 36$$

$$66) 5$$

$$67) 7$$

$$68) -14$$

$$69) x^3 - 3x - 15$$

$$70) 32t + 8$$

$$71) n^2 - 2n - 3$$

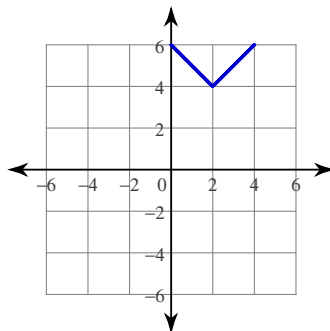
$$72) a^3 + 3a + 16$$

$$73) -4t^3 - 12t$$

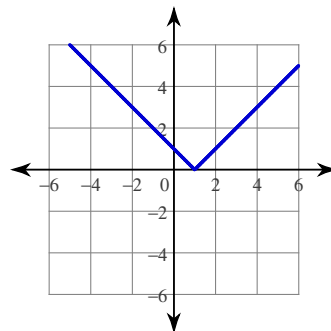
$$74) x^2 + 6x - 1$$

$$75)$$

$$76)$$

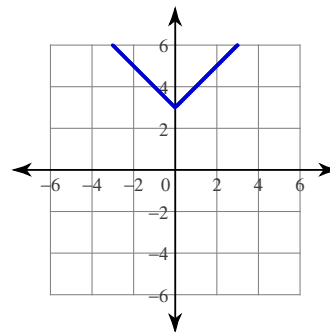
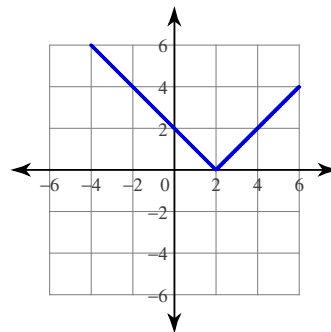
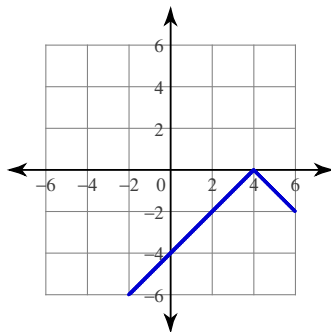


78)

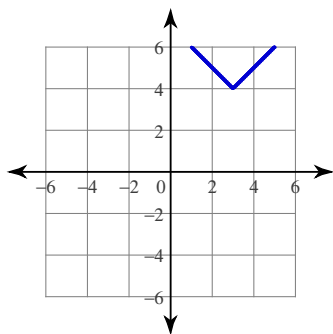


79)

77)



80)

81) 43° 82) 54° 83) 11° 84) 47° 85) 22° 86) 63.9°

87) 29 ft

88) 34 in

89) 27 yd

90) 12 m

91) $m\angle C = 18^\circ$, $a = 25$ ft, $b = 32.9$ ft92) $m\angle B = 32^\circ$, $a = 15.1$ cm, $c = 13.1$ cm93) $m\angle B = 58^\circ$, $a = 33$ in, $c = 25$ in94) $m\angle C = 18^\circ$, $c = 12$ km, $b = 26.9$ km95) 25.1 ft²96) 17.7 ft²97) 25.5 mi²98) 47.5 km²

99)
$$\begin{bmatrix} 25 & 15 & -20 \\ -2 & 50 & -56 \end{bmatrix}$$

100)
$$\begin{bmatrix} -32 & 10 & 27 \\ 17 & -16 & -9 \end{bmatrix}$$

101)
$$\begin{bmatrix} 24 & 16 \\ 24 & 16 \end{bmatrix}$$

102)
$$\begin{bmatrix} -34 & 26 \\ 30 & -6 \\ -31 & 19 \end{bmatrix}$$

103)
$$\begin{bmatrix} 9 & 20 \\ 19 & 24 \end{bmatrix}$$

104)
$$\begin{bmatrix} 21 & -14 \\ 3 & -2 \end{bmatrix}$$

105)
$$\begin{bmatrix} 18 & 18 \\ -32 & 17 \end{bmatrix}$$

106)
$$\begin{bmatrix} -28 & -20 & -22 \\ -12 & -15 & -12 \end{bmatrix}$$

107)
$$\begin{bmatrix} 28 & 39 \\ -2 & -4 \end{bmatrix}$$

108)
$$\begin{bmatrix} -39 & 23 \\ -51 & 33 \\ -23 & 16 \end{bmatrix}$$

109) $-60\sqrt{5}$

110) $2\sqrt{14}$

111) $10\sqrt{3}$

112) $360\sqrt{6}$

113) $-72\sqrt{7}$

114) $60\sqrt{2}$

115) 6

116) $30\sqrt{14}$

117) $(x-2)^2 = 0$

118) $(x+3)(x-4) = 0$

119) $(x+5)(x-3) = 0$

120) $(x+2)(x+4) = 0$

121) $(x+5)(x-5) = 0$

122) $(x-1)(x+5) = 0$

123) $(3x-1)(x-4) = 0$

124) $(5x+3)(x-4) = 0$

125) $(3x+5)(x-4) = 0$

126) $(5x-2)(x-2) = 0$

127) $(2x+1)(x+3) = 0$

128) $(3x-4)(x-2) = 0$

129) 70.7°

130) 64.6°

131) 29°

132) 6.9

133) 26.4

134) 11.1

135) $m\angle A = 34^\circ$, $b = 1.7$, $a = 1.1$

136) $m\angle A = 59^\circ$, $b = 5$, $c = 9.7$

137) $m\angle B = 48^\circ$, $b = 6$, $c = 8.1$