

JUNE EXAM REVIEW MATERIALS

Solve each equation.

1) $|-8 + x| - 3 = 14$

2) $2\left|\frac{v}{9}\right| = 2$

3) $|-3x| + 9 = 18$

4) $-7\left|\frac{x}{10}\right| = -7$

5) $5|2b| = 90$

6) $\frac{|n + 8|}{8} = 4$

7) $|7n + 5| = 9$

8) $|4n - 6| = 34$

9) $|1 + 6p| = 49$

10) $|3a - 7| = 23$

11) $|7 - 3n| = 16$

12) $|-6x - 8| = 50$

13) $-8 + |-6b + 3| = 55$

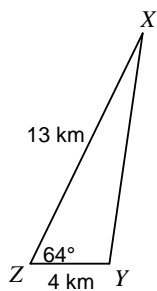
14) $\frac{|7r - 6|}{4} = 5$

15) $-3|-10 + 4v| = -6$

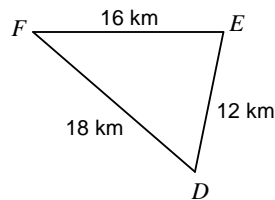
16) $4 + |-4 + 7k| = 14$

Find the area of each triangle to the nearest tenth.

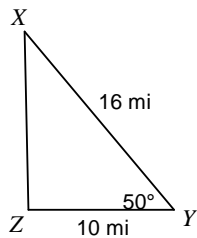
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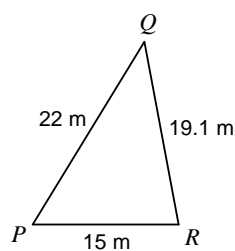
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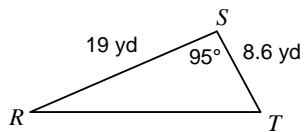
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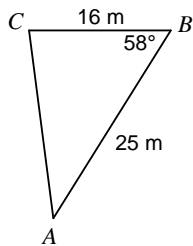
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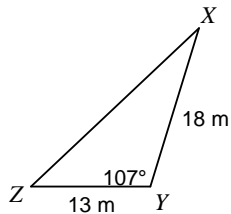
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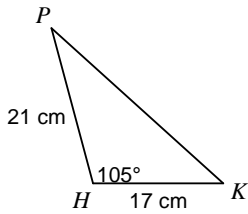
22)



23)



24)

**Solve each equation.**

25) $\left(\frac{1}{243}\right)^{k+3} = 27$

26) $5^{-3n} \cdot 5^{-n} = 5^{-3n}$

27) $\left(\frac{1}{4}\right)^{-3m-2} = 16$

28) $16^{-2a-1} = \frac{1}{4}$

29) $64^{-2m} \cdot 16^{2m} = 64^{2m+3}$

30) $4^{2n+2} \cdot 4^{2n+1} = \frac{1}{4}$

31) $3^{3m} = 81$

32) $6^{3x} \cdot 216 = 6^3$

33) $5^4 \cdot 25^{-n-1} = 5^4$

34) $64^{-3x} \cdot \left(\frac{1}{32}\right)^{-2x} = 16^{-x}$

35) $\left(\frac{1}{16}\right)^{k-3} = 64$

36) $\frac{6^{3n+1}}{6^{n-3}} = 36$

37) $36^{m+1} = \frac{1}{216}$

38) $32^{3m} = 16^m$

39) $2^{2x} \cdot 2^x = 1$

40) $\frac{27^{n-2}}{9} = 243^{2n-1}$

41) $-14 = -(-3m - 7)$

42) $55 = -7(-5k + 3) + 3k$

43) $24 = -6(1 + 5a)$

44) $-4 = 2(-8n + 3) + 6n$

45) $8k + 22 = 3(2k + 8)$

46) $39 - 6x = 1 + 8(5 - x)$

47) $2(n - 6) = -3 + 5n$

48) $8(3n + 3) = 24 - 4n$

Simplify.

49) $xy^3 \cdot yx^4$

50) $3x^4 \cdot 3x^3y^2$

51) $(nm^3)^2$

52) $(2x^2y^3)^3$

Simplify. Your answer should contain only positive exponents.

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

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

55) $x^4y^{-2} \cdot 2yx^{-2} \cdot 4yx^2$

56) $3nm^{-4} \cdot 2mn^3$

Simplify.

57) $3a^2b^{\frac{3}{2}} \cdot 4a^{\frac{1}{2}}b^{\frac{1}{2}}$

58) $m^{\frac{1}{2}}n^{\frac{2}{3}} \cdot nm^{\frac{7}{4}}$

Simplify. Your answer should contain only positive exponents.

59) $(2ba^4)^3 \cdot 2ab$

60) $2a^4b^4 \cdot (2b)^0$

Factor each completely.

61) $a^2 - 14a + 40$

62) $n^2 - 10n + 9$

63) $a^3 + 8a^2 + 12a$

64) $k^2 - 5k + 4$

65) $x^2 - 7x$

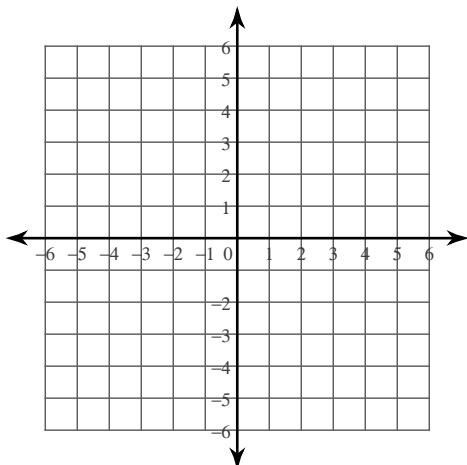
66) $5p^2 + 50p + 45$

67) $6p^2 - 6p - 180$

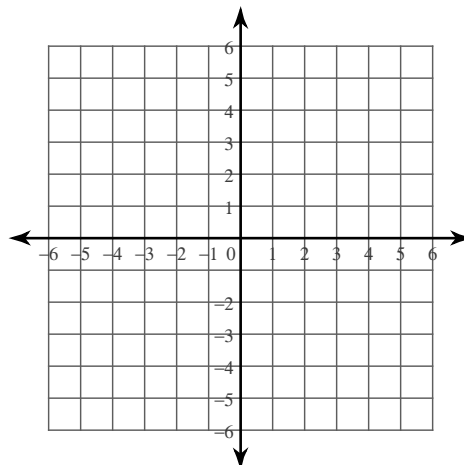
68) $r^2 + 8r + 15$

Sketch the graph of each linear inequality.

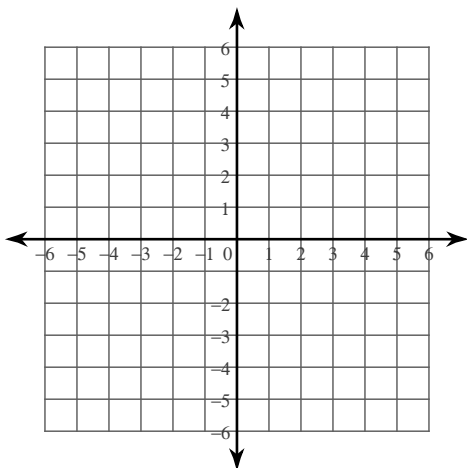
69) $y < -\frac{1}{4}x$



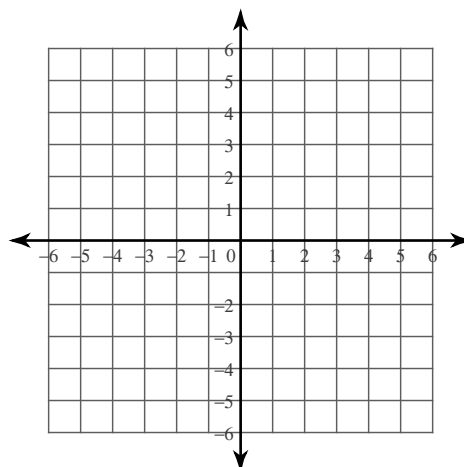
70) $y < \frac{3}{2}x + 3$



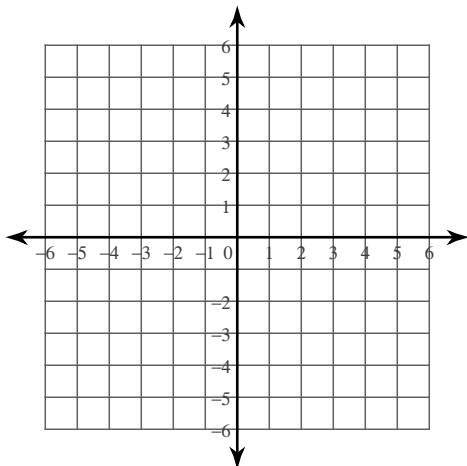
71) $y > -\frac{2}{5}x - 4$



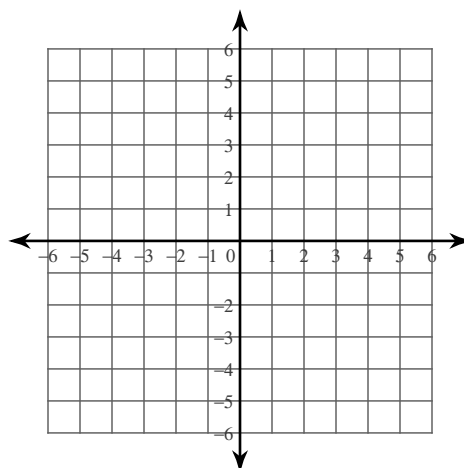
72) $y > x + 5$



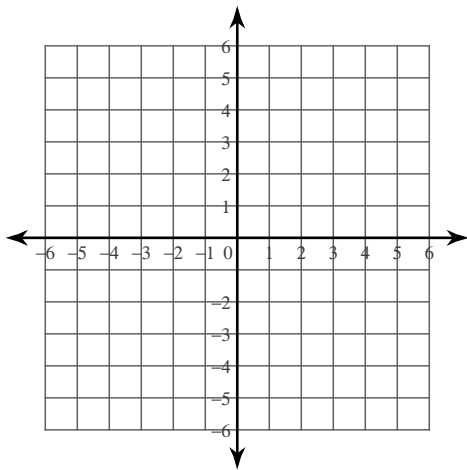
73) $y < 4x - 1$



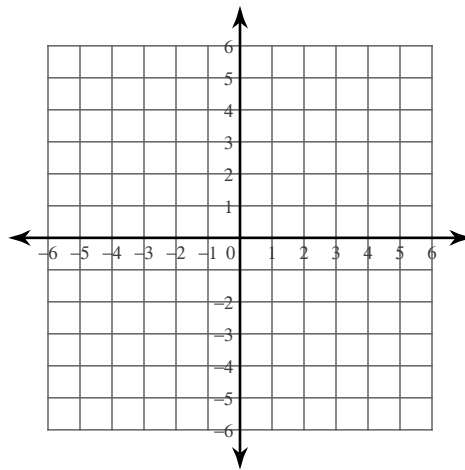
74) $y \geq -\frac{9}{5}x + 4$



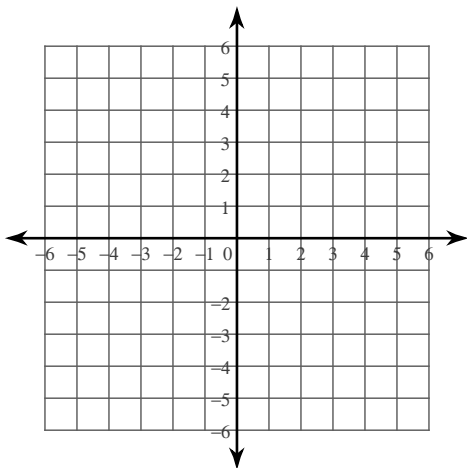
75) $4x + 3y > 6$



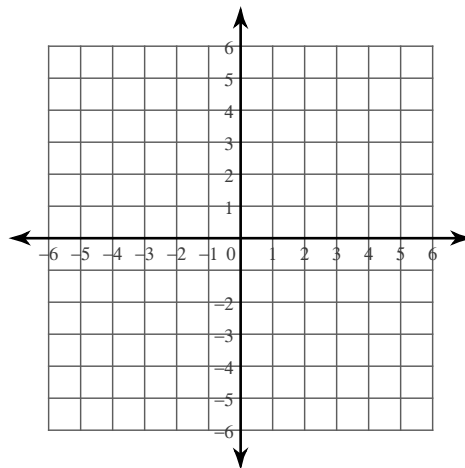
76) $2x - y < -1$



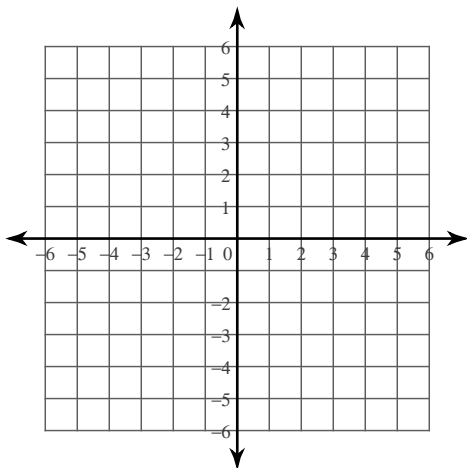
77) $x - 5y \leq -15$



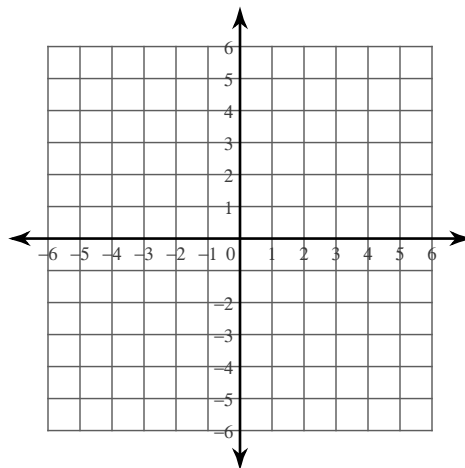
78) $2x - y \leq 3$



79) $x \geq -5$

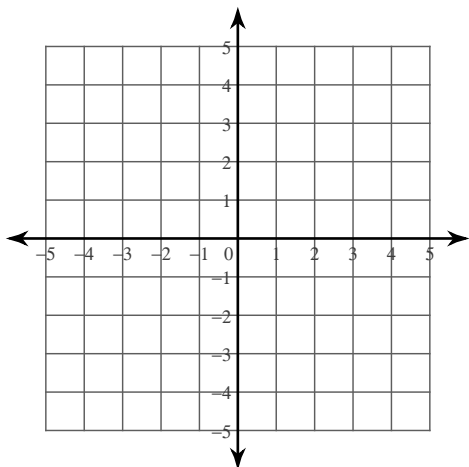


80) $x - y \leq -5$

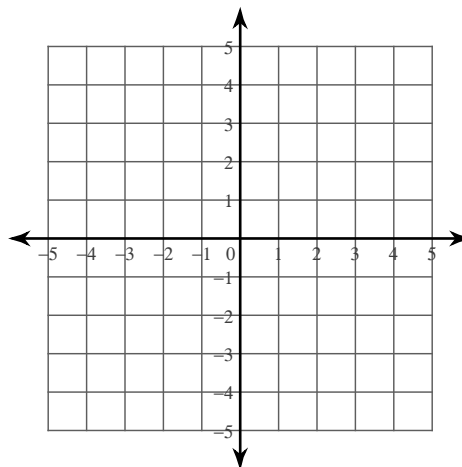


Sketch the solution to each system of inequalities.

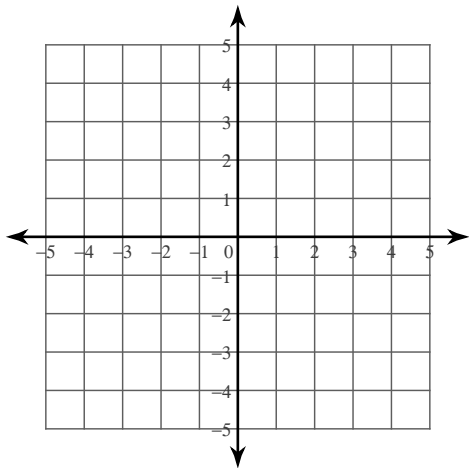
81) $x - 3y > -9$
 $5x + 3y \geq -9$



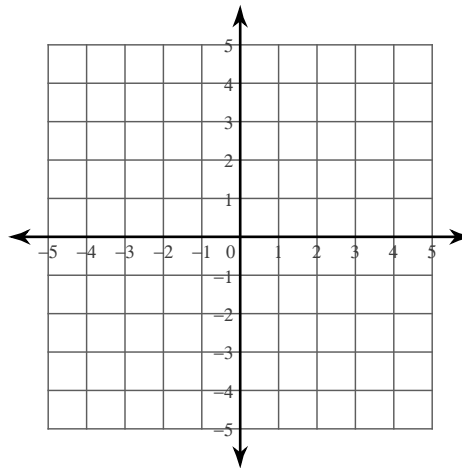
82) $x + 3y \leq 9$
 $x - 3y \leq -3$



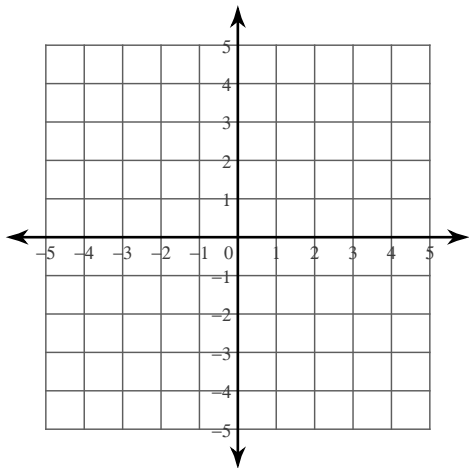
83) $x + 3y > 9$
 $5x - 3y \geq 9$



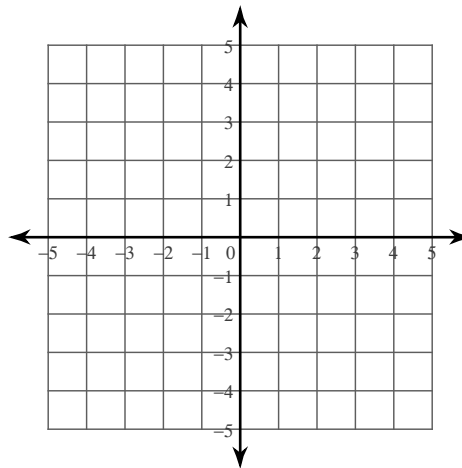
84) $2x + 3y \leq 9$
 $2x - 3y \geq 3$



85) $2x + y \leq -3$
 $3x - y > -2$



86) $3x - y \geq -1$
 $x + y \geq -3$



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

$$87) \begin{bmatrix} 5 & 1 & 2 \\ -5 & -4 & -5 \end{bmatrix} - \begin{bmatrix} 5 & 4 & 1 \\ 0 & 1 & 1 \end{bmatrix}$$

$$88) \begin{bmatrix} -5 & 0 \end{bmatrix} - \begin{bmatrix} 5 & -1 \end{bmatrix}$$

$$89) 2 \begin{bmatrix} -5 & -4 \\ -5 & -5 \\ 6 & 3 \end{bmatrix}$$

$$90) 2 \begin{bmatrix} -4 & 4 & -6 \\ 6 & -2 & 2 \end{bmatrix}$$

$$91) \begin{bmatrix} 5 & -1 & -3 \\ -3 & -3 & -3 \end{bmatrix} \cdot \begin{bmatrix} -5 & -5 \\ -4 & 5 \\ 5 & -1 \end{bmatrix}$$

$$92) \begin{bmatrix} -3 & -2 \\ -6 & 2 \end{bmatrix} \cdot \begin{bmatrix} 3 & -6 & 6 \\ 0 & 0 & -6 \end{bmatrix}$$

$$93) \begin{bmatrix} 6 & -1 \\ 1 & 5 \end{bmatrix} \cdot \begin{bmatrix} -4 & 0 \\ 0 & 2 \end{bmatrix}$$

$$94) \begin{bmatrix} -3 & 1 \\ -3 & 1 \end{bmatrix} \cdot \begin{bmatrix} -4 & 4 & -6 \\ -2 & -6 & 4 \end{bmatrix}$$

$$95) \begin{bmatrix} 6 & 3 \\ 6 & 5 \end{bmatrix} \cdot \begin{bmatrix} 5 & 1 \\ -2 & -4 \end{bmatrix}$$

$$96) \begin{bmatrix} 4 & 3 & 2 \\ -1 & 1 & -1 \end{bmatrix} \cdot \begin{bmatrix} -5 & -6 \\ -1 & 0 \\ -3 & 0 \end{bmatrix}$$

Simplify.

$$97) \sqrt{6} \cdot \sqrt{8}$$

$$98) \sqrt{4} \cdot \sqrt{8}$$

$$99) \sqrt{15} \cdot \sqrt{3}$$

$$100) \sqrt{5} \cdot -\sqrt{3}$$

$$101) -5\sqrt{15}(4 + \sqrt{10})$$

$$102) 3\sqrt{10}(\sqrt{10} + 5\sqrt{2})$$

$$103) \sqrt{15}(\sqrt{6} + 4)$$

$$104) -3\sqrt{10}(\sqrt{5} + \sqrt{6})$$

$$105) (-5 + 2\sqrt{2})(6 + 3\sqrt{2})$$

$$106) (\sqrt{5} + \sqrt{6})(\sqrt{5} + \sqrt{5})$$

$$107) (\sqrt{5} + 3)(-4\sqrt{5} + 5)$$

$$108) (4 + \sqrt{6})(-4 + 5\sqrt{6})$$

Solve each equation by factoring.

$$109) k^2 - 6k + 5 = 0$$

$$110) m^2 + 3m + 2 = 0$$

$$111) v^2 - v - 6 = 0$$

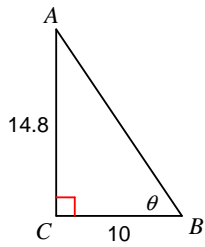
$$112) x^2 - 3x + 2 = 0$$

$$113) x^2 - 13x + 40 = 0$$

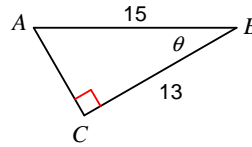
$$114) n^2 - 13n + 40 = 0$$

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

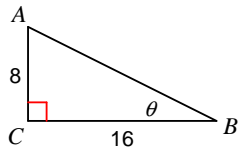
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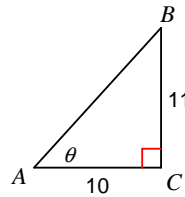
116)



117)

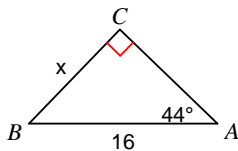


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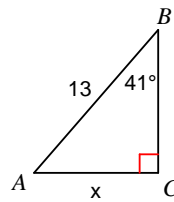


Find the measure of each side indicated. Round to the nearest tenth.

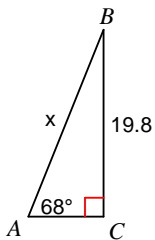
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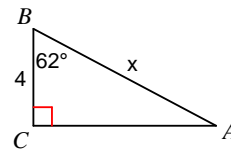
120)



121)

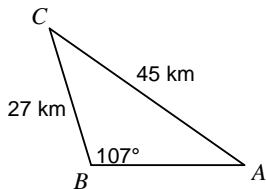


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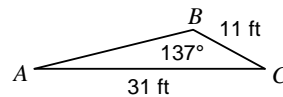


Find each measurement indicated. Round your answers to the nearest tenth.

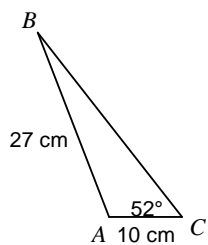
123) Find $m\angle A$



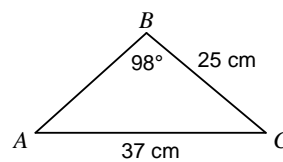
124) Find $m\angle A$



125) Find $m\angle B$



126) Find $m\angle A$



Answers to JUNE EXAM REVIEW MATERIALS

1) $\{25, -9\}$

2) $\{9, -9\}$

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

4) $\{10, -10\}$

5) $\{9, -9\}$

6) $\{24, -40\}$

7) $\left\{\frac{4}{7}, -2\right\}$

8) $\{10, -7\}$

9) $\left\{8, -\frac{25}{3}\right\}$

10) $\left\{10, -\frac{16}{3}\right\}$

11) $\left\{-3, \frac{23}{3}\right\}$

12) $\left\{-\frac{29}{3}, 7\right\}$

13) $\{-10, 11\}$

14) $\left\{\frac{26}{7}, -2\right\}$

15) $\{3, 2\}$

16) $\left\{2, -\frac{6}{7}\right\}$

17) 23.4 km²

18) 94.1 km²

19) 61.3 mi²

20) 140.8 m²

21) 81.4 yd²

22) 169.6 m²

23) 111.9 m²

24) 172.4 cm²

25) $\left\{-\frac{18}{5}\right\}$

26) $\{0\}$

27) $\{0\}$

28) $\left\{-\frac{1}{4}\right\}$

29) $\left\{-\frac{9}{8}\right\}$

30) $\{-1\}$

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

32) $\{0\}$

33) $\{-1\}$

34) $\{0\}$

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

36) $\{-1\}$

37) $\left\{-\frac{5}{2}\right\}$

38) $\{0\}$

39) $\{0\}$

40) $\left\{-\frac{3}{7}\right\}$

41) $\{-7\}$

42) $\{2\}$

43) $\{-1\}$

44) $\{1\}$

45) $\{1\}$

46) $\{1\}$

47) $\{-3\}$

48) $\{0\}$

49) x^5y^4

50) $9x^7y^2$

51) n^2m^6

52) $8x^6y^9$

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

54) $3x^2y^2$

55) $8x^4$

56) $\frac{6n^4}{m^3}$

57) $12b^2a^{\frac{5}{2}}$

58) $n^{\frac{5}{3}}m^{\frac{9}{4}}$

59) $16b^4a^{13}$

60) $2a^4b^4$

61) $(a - 10)(a - 4)$

62) $(n - 9)(n - 1)$

63) $a(a + 2)(a + 6)$

64) $(k - 1)(k - 4)$

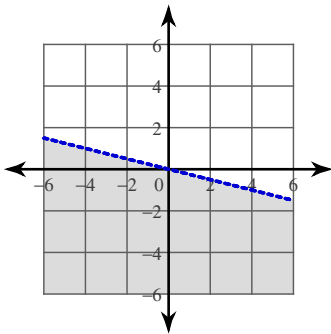
65) $x(x - 7)$

66) $5(p + 1)(p + 9)$

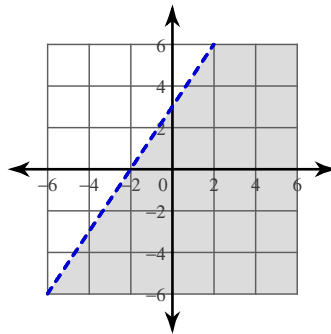
67) $6(p - 6)(p + 5)$

68) $(r + 5)(r + 3)$

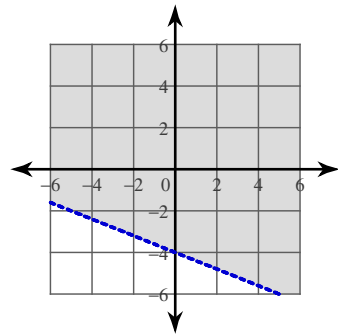
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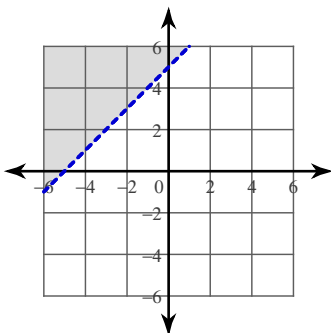
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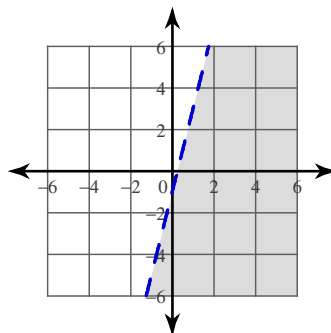
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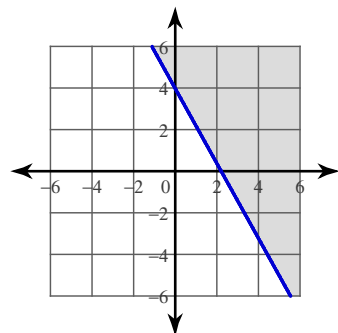
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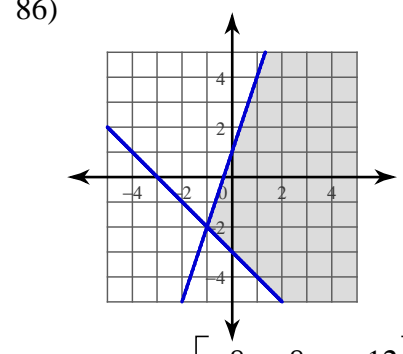
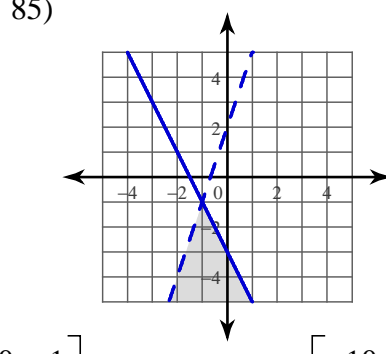
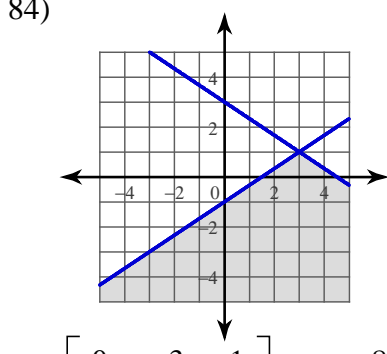
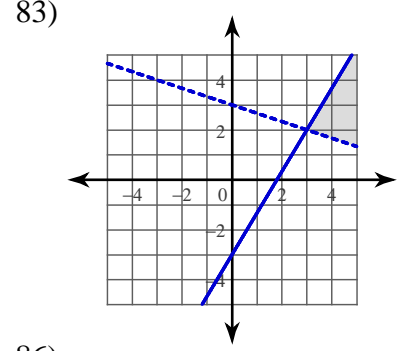
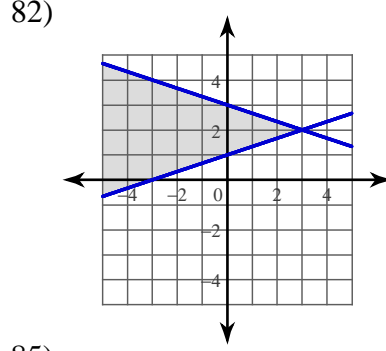
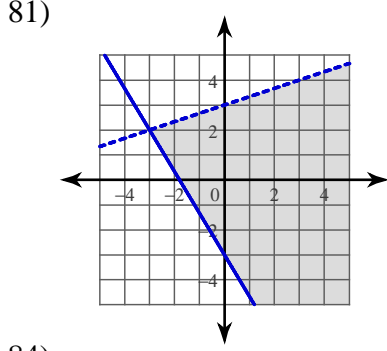
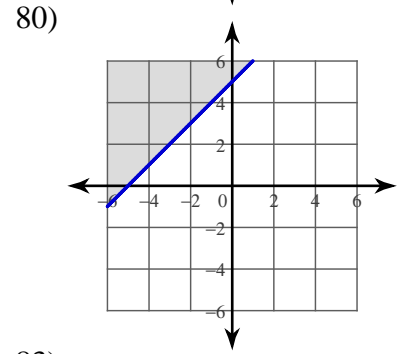
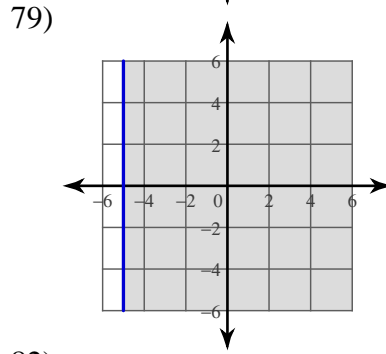
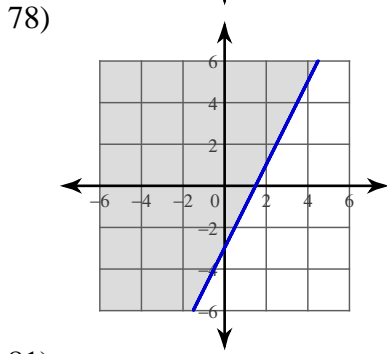
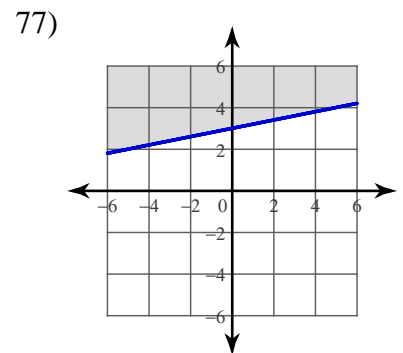
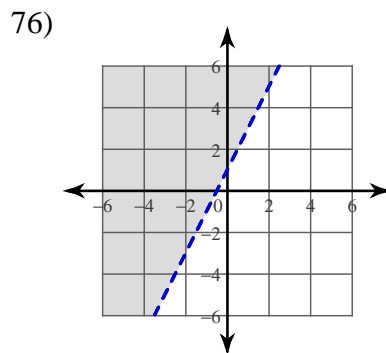
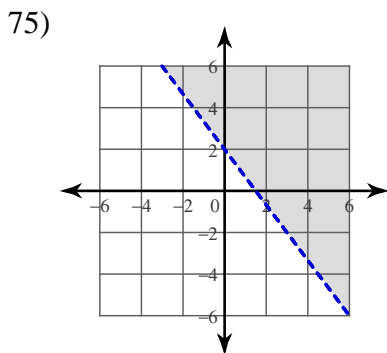


73)



74)





87) $\begin{bmatrix} 0 & -3 & 1 \\ -5 & -5 & -6 \end{bmatrix}$

88) $\begin{bmatrix} -10 & 1 \end{bmatrix}$

89) $\begin{bmatrix} -10 & -8 \\ -10 & -10 \\ 12 & 6 \end{bmatrix}$

90) $\begin{bmatrix} -8 & 8 & -12 \\ 12 & -4 & 4 \end{bmatrix}$

91) $\begin{bmatrix} -36 & -27 \\ 12 & 3 \end{bmatrix}$

92) $\begin{bmatrix} -9 & 18 & -6 \\ -18 & 36 & -48 \end{bmatrix}$

93) $\begin{bmatrix} -24 & -2 \\ -4 & 10 \end{bmatrix}$

94) $\begin{bmatrix} 10 & -18 & 22 \\ 10 & -18 & 22 \end{bmatrix}$

95) $\begin{bmatrix} 24 & -6 \\ 20 & -14 \end{bmatrix}$

96) $\begin{bmatrix} -29 & -24 \\ 7 & 6 \end{bmatrix}$

97) $4\sqrt{3}$

98) $4\sqrt{2}$

99) $3\sqrt{5}$

100) $-\sqrt{15}$

101) $-20\sqrt{15} - 25\sqrt{6}$

102) $30 + 30\sqrt{5}$

103) $3\sqrt{10} + 4\sqrt{15}$

104) $-15\sqrt{2} - 6\sqrt{15}$

105) $-18 - 3\sqrt{2}$

106) $10 + 2\sqrt{30}$

107) $-5 - 7\sqrt{5}$

108) $14 + 16\sqrt{6}$

109) $\{5, 1\}$

110) $\{-1, -2\}$

111) $\{3, -2\}$

112) $\{1, 2\}$

113) $\{8, 5\}$

114) $\{5, 8\}$

115) 56°

116) 29.9°

117) 26.6°

118) 47.7°

119) 11.1

120) 8.5

121) 21.4

122) 8.5

123) 35°

124) 14°

125) 17°

126) 42°