Honors PC Name_____

Summer Program

Date_____ Period____

Evaluate each expression.

1) $6 \div (4 - 1)$

2) $4 - 3 + 5$

3) $1 + 1 - 6 \div (3 + 3)$

4) $4 + (5 + 3)(6 - 3)$

5) $6 \div (5 - (6 - 5) - 2)$

6) $(9 \times 2) \div (5 - 4 + 5)$

NO CALCULATORS. Evaluate each expression. Put all answers in fraction form

7) $\frac{3}{4} - 1\frac{2}{3}$

8) $\left(-\frac{5}{4}\right) - 2\frac{1}{2}$

9) $\left(-1\frac{3}{4}\right) - 4\frac{6}{7}$

10) $\left(-\frac{1}{3}\right) - \frac{13}{8}$

NO CALCULATORS. Find each product. Show answers in fraction form.

11) $\left(-\frac{3}{2}\right)\left(\frac{1}{6}\right)$

12) $(2)\left(-\frac{11}{6}\right)$

13) $\left(5\frac{7}{8}\right)\left(-\frac{1}{2}\right)$

14) $\left(-2\frac{5}{7}\right)\left(\frac{1}{2}\right)$

Find each quotient.

15) $\dfrac{\frac{5}{7}}{2}$

16) $\dfrac{\frac{7}{4}}{\frac{2}{7}}$

17) $\dfrac{\frac{7}{4}}{-\frac{1}{3}}$

18) $\dfrac{-2\frac{2}{3}}{-\frac{1}{7}}$

Simplify each expression.

19) $-9(7x + 5) + 10x$

20) $6(7v + 10) - 9$

21) $-6(5x + 2) - 1$

22) $-9 - 9(8a + 5)$

Solve each equation.

23) $-12 = -6(n - 9)$

24) $10 - 8n = -30$

25) $7 = \dfrac{x}{2} + 9$

26) $-8v + 3(7v - 6) = -122$

27) $6 + 7(1 - 7n) = -85$

28) $-140 = 2(8v - 6)$

29) $-5(1 + 2b) = -85$

30) $2(5 - 2x) = 16 - 3x$

31) $5 - 7x = 6(6x + 8)$

32) $6(8a - 7) = 38 + 8a$

33) $26 - 4p = -4(p - 6)$

34) $6x - 4(6 - 6x) = -3x - 24$

Solve each proportion.

35) $\frac{6}{n} = \frac{2}{5}$

36) $\frac{2}{r} = \frac{4}{5}$

37) $\frac{7}{3} = \frac{p}{7}$

38) $\frac{5}{3} = \frac{8}{k - 4}$

39) $\frac{p - 1}{10} = \frac{8}{5}$

40) $\frac{n - 4}{6} = \frac{2}{10}$

Evaluate each function for the given value.

41) $f(x) = -3|x - 2|$; Find $f(-1)$

42) $f(x) = 3x - 1$; Find $f(3)$

43) $f(x) = 2|x - 2| - 3$; Find $f(0)$

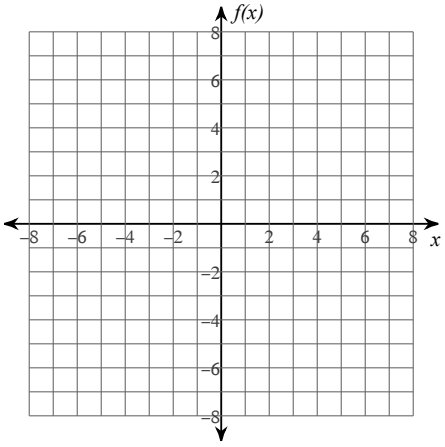
44) $f(x) = |x - 4| - 2$; Find $f(10)$

45) $f(x) = -x^2$; Find $f(2)$

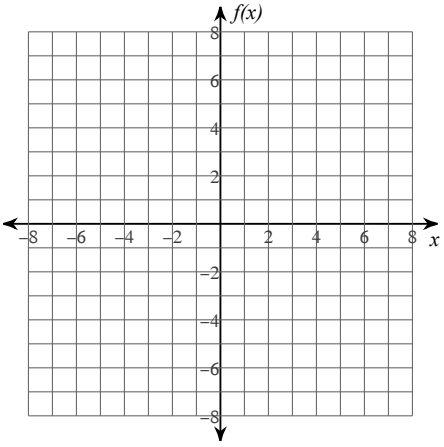
46) $f(x) = x^2 - 2x - 3$; Find $f(-1)$

Graph each function.

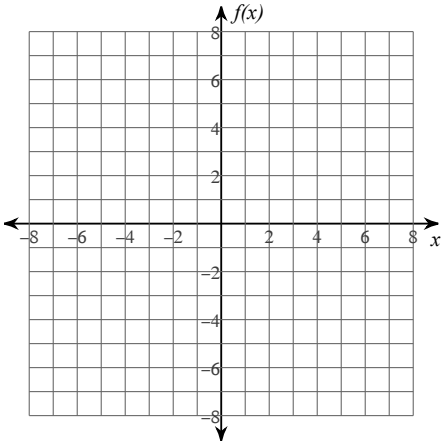
47) $f(x) = x + 1$



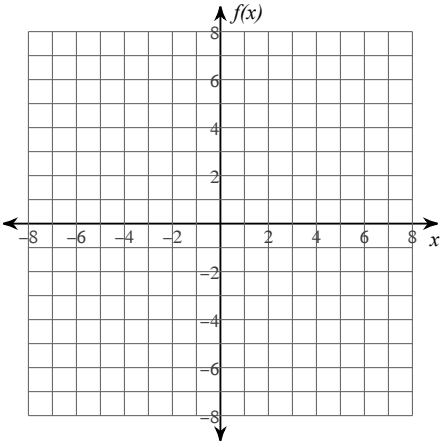
48) $f(x) = -x + 1$



49) $f(x) = x + 4$

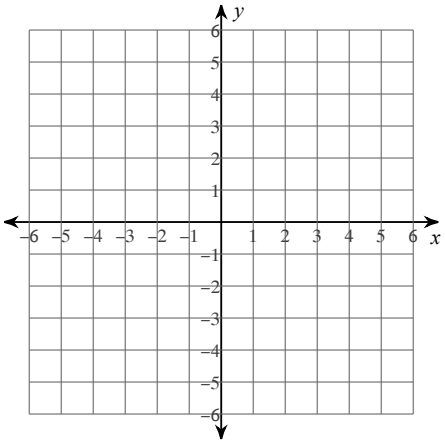


50) $f(x) = -3x - 6$

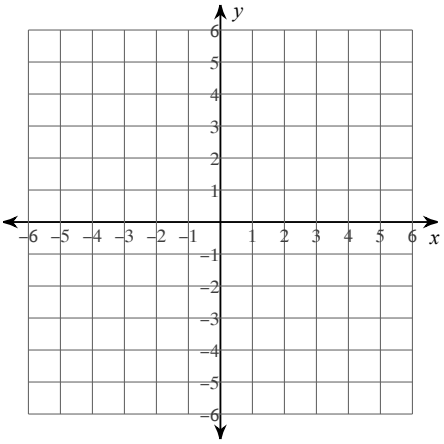


Sketch the graph of each line.

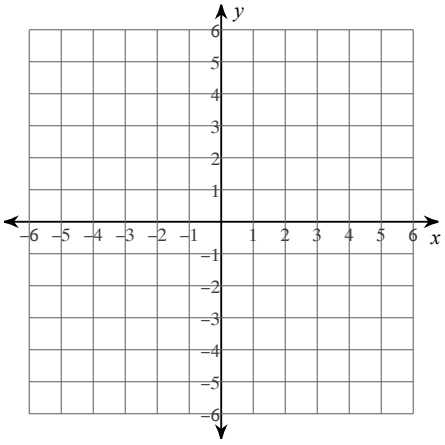
51) $2x - 3y = 0$



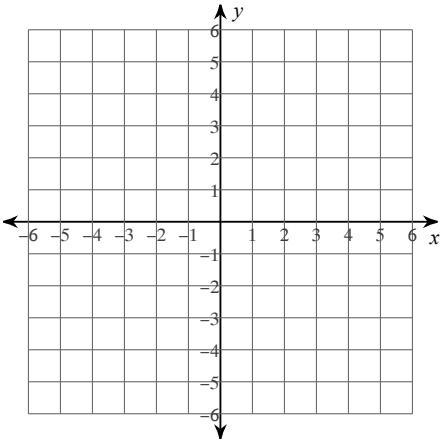
52) $x - 2y = -4$



53) $3x + 2y = -4$

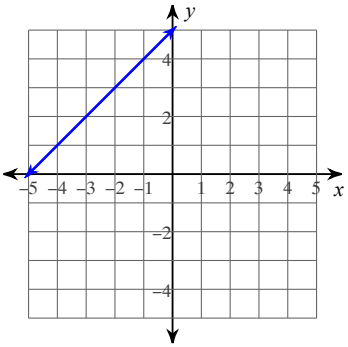


54) $x + 3y = 6$



Write the slope-intercept form of the equation of each line.

55)



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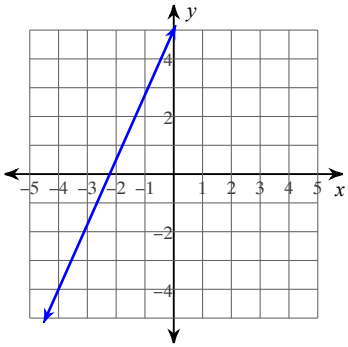

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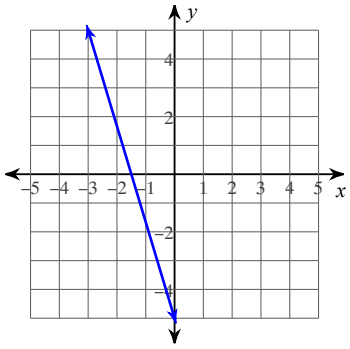

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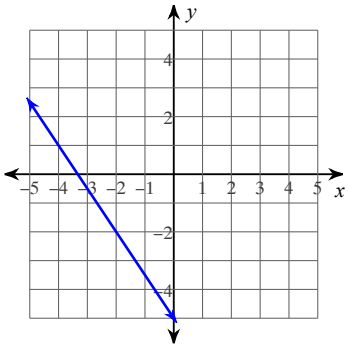
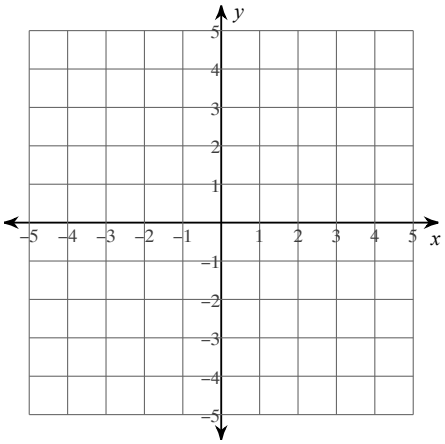


Solve each system by graphing.

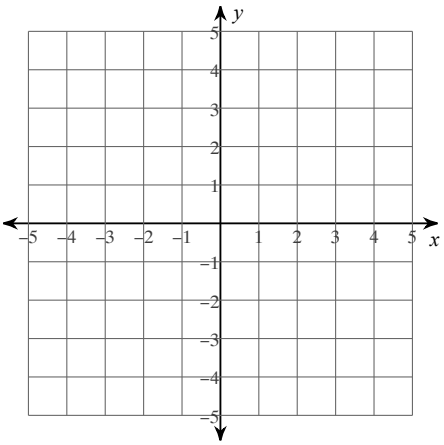
59) $y = -\frac{1}{2}x - 3$

$y = 2x + 2$



60) $y = x - 3$

$y = -x + 1$



Solve each system.

61) $2x + 6y = -20$

$x - 4y = 18$

62) $-3x + 6y = 6$

$x + 3y = -17$

63) $-3x + y = -19$

$-4x + 2y = -24$

64) $2x + 2y = -10$

$4x + 6y = -20$

65) $4x - 10y = 18$
$8x + 6y = 10$

66) $7x - 10y = 6$
$10x - 20y = -20$

Simplify. Your answer should contain only positive exponents.

67) $4x^3 \cdot 3x^4 \cdot -x^3$

68) $-4x^4 \cdot -2x^3$

69) $\left(p^3\right)^3$

70) $\frac{2x^3}{4x}$

71) $\frac{2x^3}{-3x}$

72) $4x^{-3}$

73) $-x^3 \cdot 3x^3 \cdot -3x^2$

74) $4x^2 \cdot 2x^{-4}y^4$

75) $\left(m^2n^3\right)^2$

76) $\frac{4m^{-1}n^3}{2nm^2}$

Simplify each expression.

77) $\left(7n^3 + 2n^4 + 4n\right) - \left(2n^3 + 2n - 6n^4\right)$

78) $\left(8 + 4m^2 - 3m\right) - \left(2 - 5m^3 - 3m^2\right)$

79) $\left(6n^2 + 4n^4 - 4n\right) + \left(2n + 2n^4 - 4n^2\right)$

80) $\left(8n - n^4 + 7\right) + \left(4 + 3n + 4n^4\right)$

Find each product.

81) $(6x + 1)(6x + 8)$

82) $(7b + 5)(4b - 2)$

83) $(6x - 7)(2x - 1)$

84) $(7n - 1)(4n + 5)$

85) $(-8n - 2)(2n^2 - 6n + 8)$

86) $(6n + 1)(-5n^2 + 2n - 7)$

87) $(b - 7)(b + 7)$

88) $(8x - 7)(8x + 7)$

89) $(2v - 6)^2$

90) $(4r + 2)^2$

Factor the common factor out of each expression.

91) $56m^5 + 24m^3n + 72m$

92) $50n^3 - 20n^5 - 50n^3m^3$

93) $48u^2v^3 - 24u^2 + 16u$

94) $-20u^2v^2 + 20u^3v^3 + 10u^3v^4$

Factor each completely.

95) $a^2 - 8a + 12$

96) $n^2 - 2n - 15$

97) $p^2 - 8p - 9$

98) $v^2 + 13v + 42$

99) $x^2 - 11x + 30$

100) $x^2 + 11x + 28$

101) $p^2 - 1$

102) $p^2 - 6p + 9$

103) $2n^2 - 13n + 21$

104) $3p^2 - 31p + 70$

Simplify.

105) $\sqrt{112}$

106) $\sqrt{392}$

107) $\sqrt{125}$

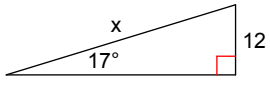
108) $\sqrt{20}$

109) $\sqrt{80}$

110) $\sqrt{100}$

Find the missing side. Round to the nearest tenth.

111)



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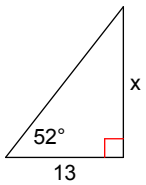

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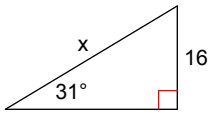

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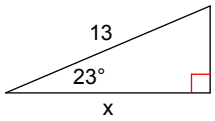

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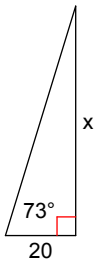

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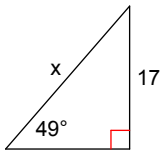

Solve each equation by factoring.

117) $a^2 - 6a + 8 = 0$

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

119) $a^2 - 3a - 18 = 0$

120) $a^2 + a - 2 = 0$

121) $(m + 3)^2 = 0$

122) $(a + 2)(a - 6) = 0$

123) $2v^2 - 26v + 80 = 0$

124) $2k^2 + 8k - 10 = 0$

Solve each equation with the quadratic formula.

125) $4x^2 - 4x - 16 = 0$

126) $11x^2 - 4x - 14 = 0$