Summer Math Skills - Mason High School

Evaluate each expression.

1) $\left(-\frac{7}{4}\right)+\frac{2}{5}$

2) $2-\left(-\frac{11}{7}\right)$

3) $\left(-\frac{15}{8}\right)+\left(-\frac{1}{2}\right)$

4) $\frac{1}{3}+\left(-\frac{2}{3}\right)$

5) $(-1)+\left(-\frac{4}{3}\right)$

6) $0-\left(-\frac{4}{7}\right)$

Simplify each expression.

7) $-5v+1+10v$

8) $9v+4+3$

9) $7m+m$

10) $x-8-5$

11) $-2(1-x)$

12) $2(3m-9)$

13) $7(4+5v)$

14) $-7(1+10x)$

15) $2+3(7+8m)$

16) $3+10(k-9)$

17) $4-4(-6x+7)$

18) $4(1+2r)+10r$

19) $-8(-6v+5)-4(v-5)$

20) $4(1-8n)-8(2n+4)$

21) $2(-4+10p)+6(p+8)$

22) $6(10x-10)+3(x+1)$

23) $(5n^3+3n)+(8n+3n^3)$

24) $(7n^3-3n^4)-(4n^4-7n^3)$

25) $(n^2+4n^3)-(4n^3+4n^4)$

26) $(4-4x^3)+(1+3x^3)$

27) $(6n^4-3)+(3+3n^2)+(6-2n^4)$

28) $(4x^2-2x^3)+(x^2-2x^3)+(4x^2-3x^3)$

29) $(2x^4 + 1) + (6x + 8x^4) + (2x - 8)$

30) $(6v^3 + 1) - (4v^3 + v^4) - (7 + v^3)$

31) $(2a^3 + 8a^4 + 2a^2) + (7a^2 + 7a^4 - a^3)$

32) $(8m^3 + 3m^2 + 4m) + (3m - m^2 + 5m^3)$

33) $(5 - 7p^3 + 8p) + (8p^2 + 4p^3 - 8p)$

34) $(8x^2 - 8x + 7x^4) + (6x^2 - 3 + 7x^4)$

Find the distance between each pair of points.

35) $(-2, -3)$, $(-8, -7)$

36) $(5, -5)$, $(-5, 6)$

37) $(-3, -4)$, $(3, -7)$

38) $(-5, -2)$, $(-4, 2)$

Solve each equation.

39) $r + 13 = 14$

40) $r + 18 = 22$

41) $-8 = -6 - n$

42) $-18k = 108$

43) $-8 = -16 - v$

44) $-6 - m = -2$

45) $\frac{p}{2} = -4$

46) $56 = -7x$

47) Mei wants to buy a tie that costs \$15.37. How much change does she receive if she gives the cashier \$100?

48) Nicole won 40 lollipops playing hoops. After giving some away she only has 11 remaining. How many did she give away?

49) Cereal cost \$5.32 / box. How many boxes did Kali buy if she spent \$15.96?

50) At a restaurant, Aliyah and her five friends decided to divide the bill evenly. If each person paid \$16.08 then what was the total bill?

51) A recipe for pancakes calls for 3 cups of milk. Chelsea accidentally put in 6 cups. How many extra cups did she put in?

52) Jimmy will be 66 years old in four years. How old is he now?

53) Julio is cooking a casserole. The recipe calls for $4\frac{1}{2}$ cups of rice. He has already put in $3\frac{4}{5}$ cups. How many more cups does he need to put in?

54) How old is Darryl if he was 52 years old sixteen years ago?

55) How many packs of batteries can you buy with $40 if one pack costs $8?

56) Five workers are hired to harvest strawberries from a field. Each is given a plot which is 8×5 feet in size. What is the total area of the field?

Solve each equation.

57) $6 = \frac{k}{5} + 9$

58) $-24 = -6 + 2x$

59) $1 + \frac{x}{-3} = -5$

60) $-x - 4 = 2$

61) $-6 = -4 + \frac{n}{-7}$

62) $-7n + 10 = 101$

63) $\frac{b}{-8} + 5 = 4$

64) $2 = \frac{m - 7}{3}$

65) A wise man once said, "400 reduced by 4 times my age is 76." What is his age?

66) Arjun won 121 pieces of gum playing the bean bag toss at the county fair. At school he gave four to every student in his math class. He only has 5 remaining. How many students are in his class?

67) Carlos was going to sell all of his stamp collection to buy a video game. After selling half of them he changed his mind. He then bought fifteen more. How many did he start with if he now has 44?

68) A wise man once said, "300 reduced by twice my age is 148." What is his age?

69) Half of your baseball card collection got wet and was ruined. You bought 12 cards to replace some that were lost. How many did you begin with if you now have 22?

70) The sum of three consecutive odd numbers is 57. What are the smallest of these numbers?

71) Wilbur had some paper with which to make note cards. On his way to his room he found five more pieces to use. In his room he cut each piece of paper in half. When he was done he had 18 half-pieces of paper. With how many sheets of paper did he start?

72) The Cooking Club made some pies to sell at a basketball game to raise money for the new math books. The cafeteria contributed four pies to the sale. Each pie was then cut into five pieces and sold. There were a total of 50 pieces to sell. How many pies did the club make?

73) Heather had some candy to give to her four children. She first took eight pieces for herself and then evenly divided the rest among her children. Each child received two pieces. With how many pieces did she start?

74) Shanice won 46 lollipops playing horseshoes at the county fair. At school she gave three to every student in her math class. She only has 1 remaining. How many students are in her class?

Evaluate each using the values given.

75) $(n - m)^2$; use $m = 2$, and $n = 3$

76) $(x)(z + x)$; use $x = 2$, and $z = 5$

77) $(m)(p - 2)$; use $m = 6$, and $p = 5$

78) $4n + m$; use $m = 1$, and $n = 5$

79) $x - \frac{y}{5}$; use $x = 2$, and $y = 5$

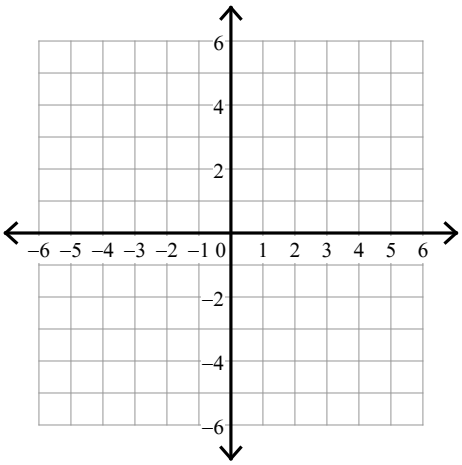
80) $6 - (m - n)$; use $m = 5$, and $n = 4$

81) $p - (m - 2)$; use $m = 4$, and $p = 3$

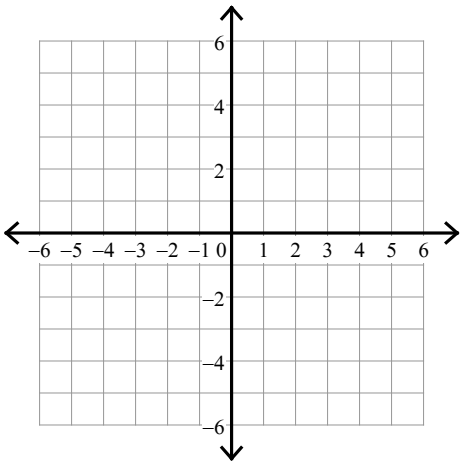
82) $y^2 + x$; use $x = 4$, and $y = 5$

Sketch the graph of each line.

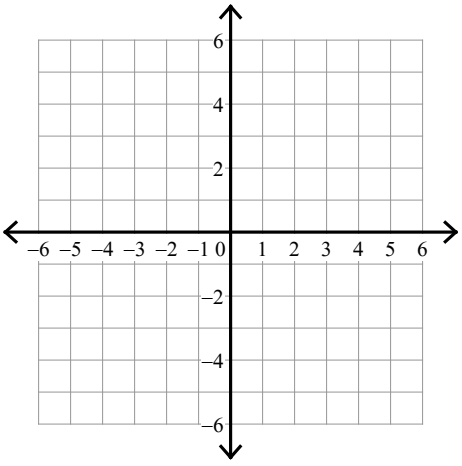
83) $y = x - 4$



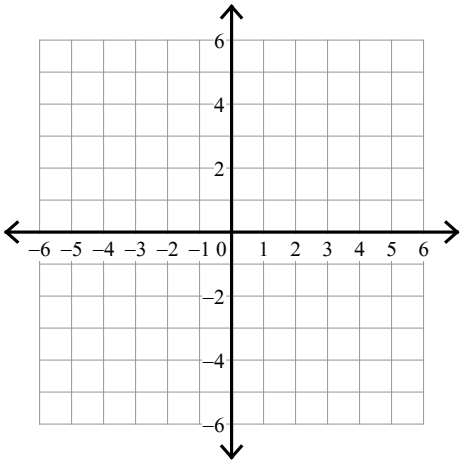
84) $y = -2x - 3$



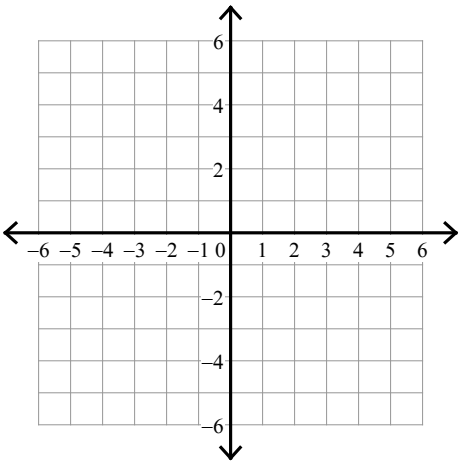
85) $y = -\frac{3}{2}x + 4$



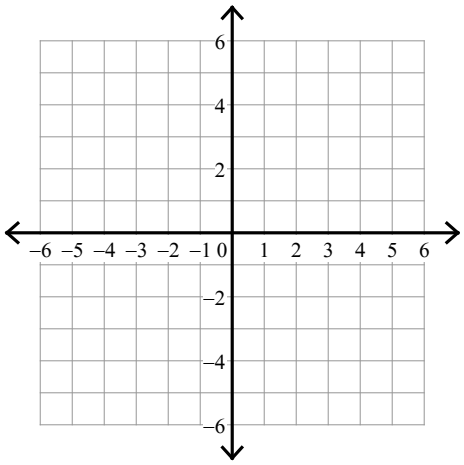
86) $y = -\frac{1}{2}x - 3$



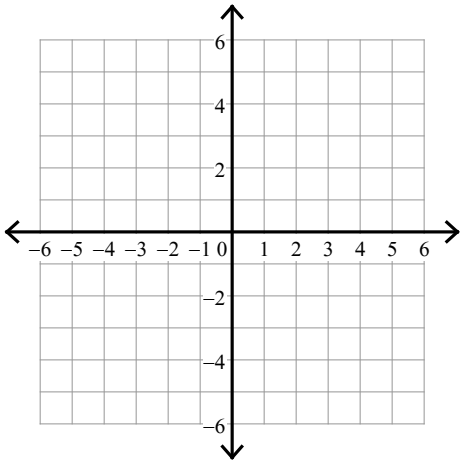
87) $y = -x - 2$



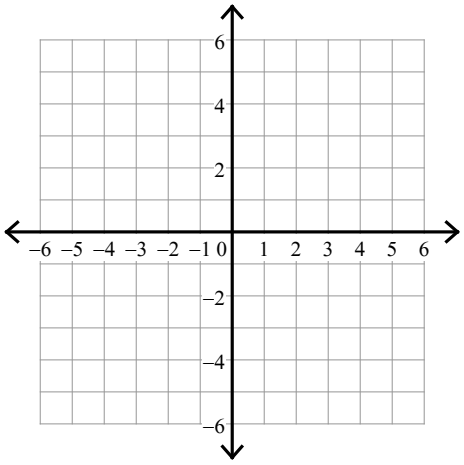
88) $x = 4$



89) $y = 4$

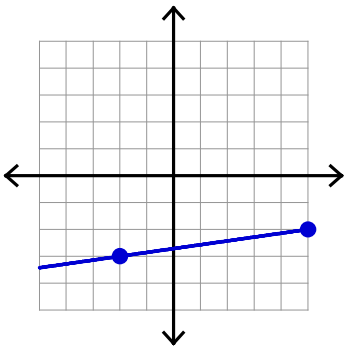


90) $y = x + 3$



Find the slope of each line.

91)



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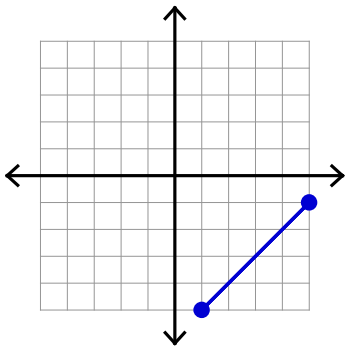


Find the slope of the line through each pair of points.

93) (18, −6), (−20, 1)

94) (16, 4), (13, 2)

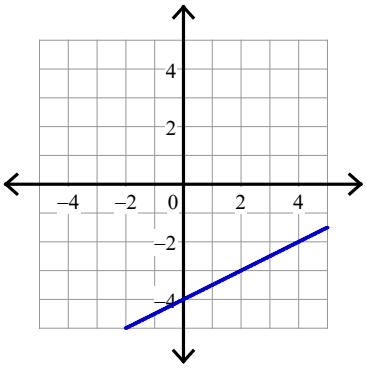
Find the slope of each line.

95) $y = 3x + 5$

96) $y = \frac{9}{5}x + 4$

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

97)



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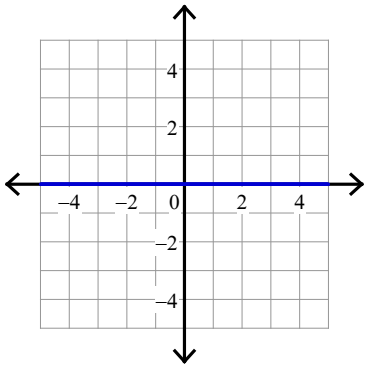

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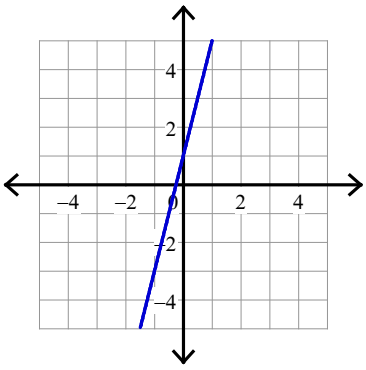

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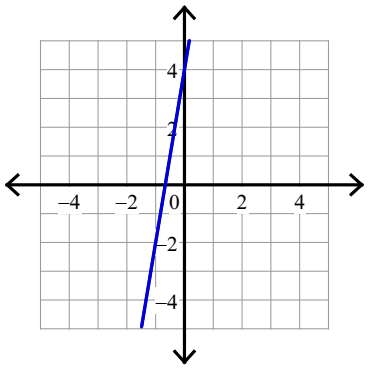
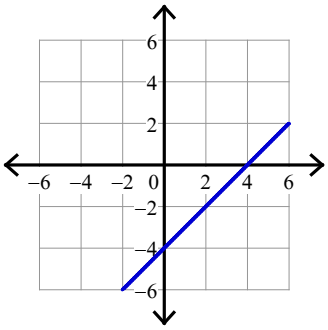


Answers to Summer Math Skills - Mason High School

1) $-\frac{27}{20}$
2) $\frac{25}{7}$
3) $-\frac{19}{8}$
4) $-\frac{1}{3}$
5) $-\frac{7}{3}$
6) $\frac{4}{7}$
7) $5v + 1$
8) $9v + 7$
9) $8m$
10) $x - 13$
11) $-2 + 2x$
12) $6m - 18$
13) $28 + 35v$
14) $-7 - 70x$
15) $23 + 24m$
16) $-87 + 10k$
17) $-24 + 24x$
18) $4 + 18r$
19) $44v - 20$
20) $-28 - 48n$
21) $40 + 26p$
22) $63x - 57$
23) $8n^3 + 11n$
24) $-7n^4 + 14n^3$
25) $-4n^4 + n^2$
26) $-x^3 + 5$
27) $4n^4 + 3n^2 + 6$
28) $-7x^3 + 9x^2$
29) $10x^4 + 8x - 7$
30) $-v^4 + v^3 - 6$
31) $15a^4 + a^3 + 9a^2$
32) $13m^3 + 2m^2 + 7m$
33) $-3p^3 + 8p^2 + 5$
34) $14x^4 + 14x^2 - 8x - 3$
35) 7.211
36) 14.866
37) 6.708
38) 4.123
39) {1}
40) {4}
41) {2}
42) {−6}
43) {−8}
44) {−4}
45) {−8}
46) {−8}
47) $84.63
48) 29
49) 3
50) $96.48
51) 3
52) 62
53) $\frac{7}{10}$
54) 68
55) 5
56) 200
57) {−15}
58) {−9}
59) {18}
60) {−6}
61) {14}
62) {−13}
63) {8}
64) {13}
65) 81
66) 29
67) 58
68) 76
69) 20
70) 17
71) 4
72) 6
73) 16
74) 15
75) 1
76) 14
77) 18
78) 21
79) 1
80) 5
81) 1
82) 29

83)



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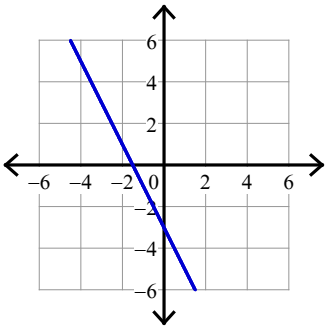

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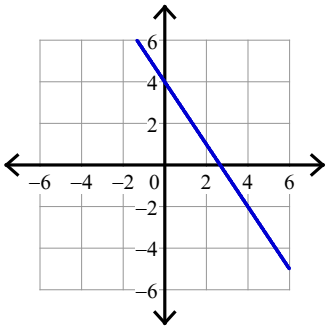

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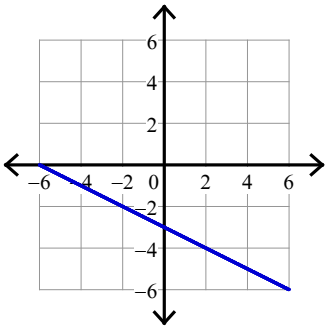

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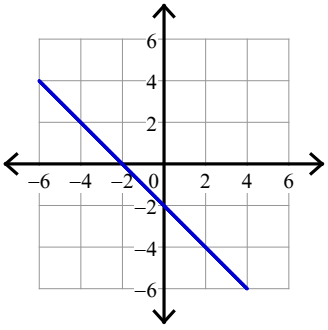

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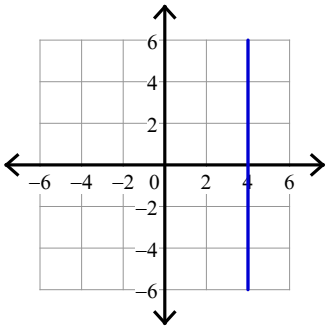

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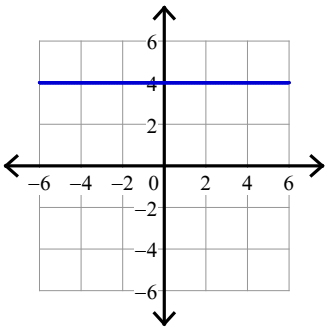

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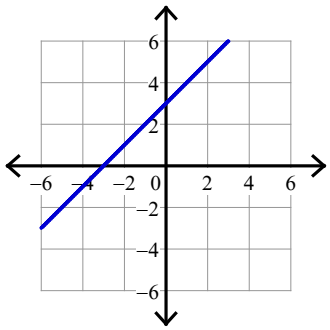

91) $\frac{1}{7}$

92) 1

93) $-\frac{7}{38}$

94) $\frac{2}{3}$

95) 3

96) $\frac{9}{5}$

97) $y = \frac{1}{2}x - 4$

98) $y = 0$

99) $y = 4x + 1$

100) $y = 6x + 4$