

Name\_\_\_\_\_

## Algebra 1 Holmdel High School Summer Assignment

The following packet is for students beginning Algebra 1 in the fall. Topics in this packet include pre-algebra skills, as well as the topics covered in Math 8.

- This packet will be collected and graded on the first day of school.
- All work must be shown for each problem in order to receive credit.
- The packet will count as the first homework assignment in marking period 1 and will be graded for completion. Students must attempt each problem.



# Summer Assignment - Algebra 1

Name \_\_\_\_\_

**Simplify the expression.**

1)  $4n - 9n + 7n^2 - 18n^2 + 5$

2)  $6n^3 + 2 + 1 - 2n + 4n^3 - 5n$

3)  $-3(1 - 9x) + 7(5 - 2x)$

4)  $6(5x + 1) - 4(-9x - 8)$

**Use order of operations to simplify each expression.**

5)  $(12 \times 2) \div (13 - 7) + 4$

6)  $5^3 + 8 - 4 + 11 - 9$

**Evaluate each expression.**

7)  $y - (-7 + x)$ ; use  $x = -5$ , and  $y = 11$

8)  $m - 8p$ ; use  $m = -10$ , and  $p = 12$

**Solve each equation.**

9)  $x - 56 = -25$

10)  $k + 84 = -9$

11)  $-11 = v + 20$

12)  $-102 = n - 18$

$$13) \frac{13n}{4} = 26$$

$$14) 47x = -1927$$

$$15) 35 = \frac{v}{19}$$

$$16) -13x = 208$$

$$17) -23 = -2x - 17$$

$$18) -44 = 4p + 12$$

$$19) \frac{x}{22} - 7 = -8$$

$$20) \frac{x - 13}{11} = 2$$

**Solve each proportion. Round your answer to the nearest hundredth.**

$$21) \frac{x}{2} = \frac{13}{18}$$

$$22) \frac{a}{3} = \frac{19}{16}$$

**Set up a proportion to answer each question.**

23) Mike bought 18 packages of blueberries for \$54. How many packages of blueberries can Emily buy if she has \$18?

24) 15 cantaloupes cost \$36. How many cantaloupes can you buy for \$12?

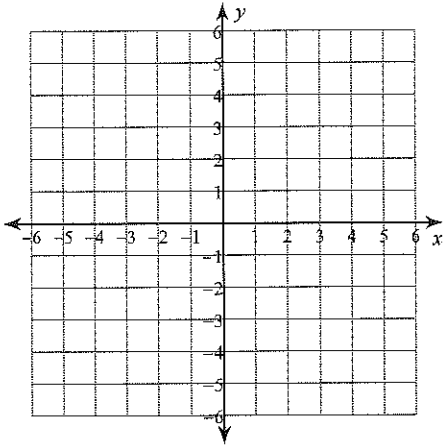
Find the slope of the line through each pair of points.

25)  $(11, -14), (-17, -7)$

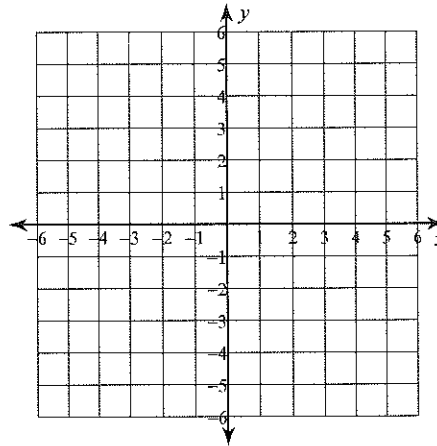
26)  $(-4, 14), (-7, -10)$

Sketch the graph of each line.

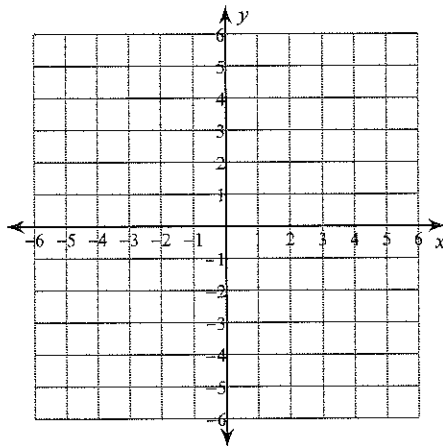
27)  $y = -5x + 2$



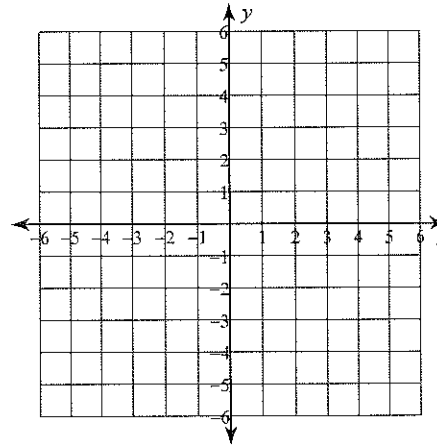
28)  $y = -\frac{5}{4}x + 5$



29)  $y = \frac{6}{5}x - 2$

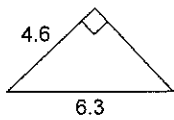


30)  $y = 2x - 3$

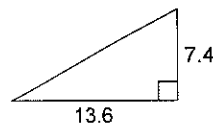


Find each missing length. Round to the nearest tenth, if necessary.

31)



32)



**Round your answer to the specified decimal place.**

33) 3.92335

34) 9.0895

35) 9.430

36) 2.997

37) 8.85

38) 3.3510

**Use the properties of exponents to simplify the expression.**

39)  $3k^2 \cdot 4k^2$

40)  $3r^3 \cdot 6r$

41)  $(2n^4)^2$

42)  $(4x^4)^2$

**Find the greatest common factor of each.**

43) 36, 12

44) 42, 12

**Find the least common multiple of each.**

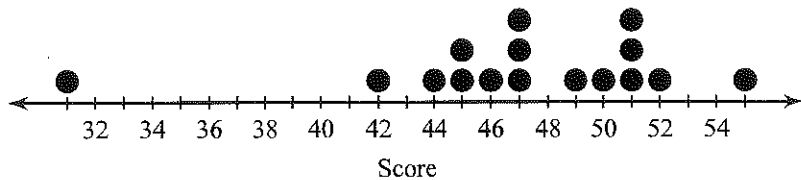
45) 32, 6

46) 21, 24

Find the mean, median, mode, & range for each set of data.

47)

Test Scores



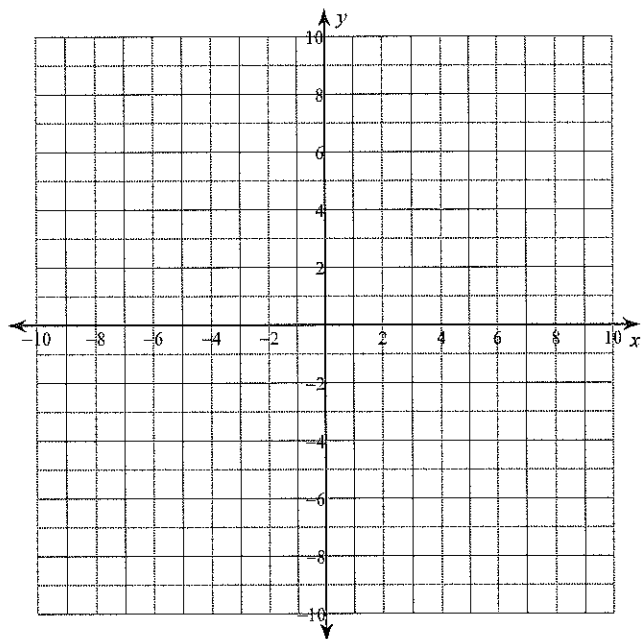
48)

Mens Heights (Inches)

70	72	66	61	74	70	73
74	65	69	66	73	71	67
64	64	70				

Plot each point.

- 49)  $B(10, -1)$     $C(-5, 4)$     $D(1, 1)$   
 $E(7, 8)$     $F(-9, 6)$     $G(-3, -5)$   
 $H(-6, 0)$     $I(-1, -4)$     $J(4, -10)$   
 $K(7, 1)$



**Find the missing value.**

50) 109% of what is 61?

51) What percent of 142 is 38?

52) 140% of 4 is what?

53) 38% of 108 is what?

54) 64 is what percent of 158?

55) 65 is 37% of what?

**Find the next three terms of the sequence.**

56) 28, 228, 428, 628, ...

57) -19, -29, -39, -49, ...

58) -4, -16, -64, -256, ...

59) 2, 10, 50, 250, ...

**Solve each proportion. Round your answer to the nearest hundredth, if necessary.**

60)  $\frac{7}{9} = \frac{10}{a+7}$

61)  $\frac{x-9}{3} = \frac{6}{8}$

**Without a calculator, simplify each expression. You must show work.**

62)  $(-10) - (-6)$

63)  $(-22) + 19$

64)  $(-11) + (-17)$

65)  $(-25) - 17$

66)  $(-8)(-16)$

67)  $(8)(-20)$

68)  $-28 \div 4$

69)  $-48 \div -16$

70)  $\left(-\frac{15}{8}\right) + \frac{1}{4}$

71)  $\left(-3\frac{1}{6}\right) + \left(-\frac{5}{4}\right)$

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

73)  $\left(-1\frac{3}{5}\right) - \left(-\frac{1}{2}\right)$

74)  $-\frac{5}{3} \cdot -\frac{7}{10}$

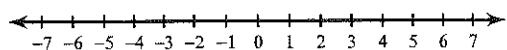
75)  $\left(2\frac{7}{8}\right)\left(-3\frac{2}{5}\right)$

76)  $1\frac{2}{3} \div \frac{-3}{8}$

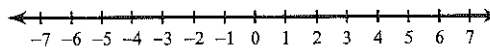
77)  $1\frac{1}{6} \div -3\frac{3}{4}$

**Draw a graph for each inequality.**

78)  $x > -6$



79)  $r \leq -2$





Use the two-way table below to answer the following questions.

The data is summarized in a two-way table for the number of boys and girls that regularly drink water, lemonade, or soda at lunch.

80) What is the percentage of boys that regularly drink water?

83) What is the percentage of girls that regularly drink soda?

81) What is the percentage of girls that regularly drink water?

84) What is the percentage of boys that regularly drink lemonade?

82) What is the percentage of boys that regularly drink soda?

85) What is the percentage of boys that regularly drink lemonade?

	<b>Boys</b>	<b>Girls</b>	<b>Total</b>
<b>Water</b>	<b>45</b>	<b>32</b>	<b>77</b>
<b>Soda</b>	<b>50</b>	<b>38</b>	<b>88</b>
<b>Lemonade</b>	<b>42</b>	<b>32</b>	<b>74</b>
Total			