Honors Math I Summer Assignment

The following skills and computations are pre-requisites to the skills you will learn throughout your time in Honors Math I. You are expected to know how to simplify and/or solve the following problems upon entrance into Honors Math I. In addition, you will be asked to complete a test that includes the following types of problems and do so ***without the use of a calculator***. I would encourage you to put away your calculator when completing the problems below. You also ***must show your work*** to receive credit.

Compute the following without decimals or calculators. Answers must be in simplest form. If necessary, give fractions as improper and *not* mixed numbers.

1) $\frac{1}{4}+\frac{2}{5}$

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

3) $\frac{5}{9}+\frac{1}{6}$

4) $8 \bullet \frac{3}{4}$

5) $\frac{7}{16} \bullet \frac{12}{5}$

6) $15 \bullet \frac{2}{3}$

7) $2\frac{1}{3} \bullet 6$

8) $2\frac{3}{4} \bullet 3\frac{1}{6}$

9) $\frac{5}{36} \bullet 12$

10) $\frac{7}{5} \div 3$

11) $\frac{7}{4} \div \frac{3}{8}$

12) $7\frac{1}{2} \div 1\frac{1}{4}$

13) $6 \div \frac{2}{3}$

14) $32 \div 1\frac{1}{15}$

15) $\frac{81}{100} \div \frac{9}{10}$

16) $4\frac{3}{4} \div 8$

17) $7 \div 4$

18) $9 \bullet \frac{4}{9}$

19) $\frac{2}{3}+\frac{1}{3} \div \frac{9}{7}$

20) $\frac{7}{8} \bullet 56$

21) $\frac{7}{8} \div 56$

22) $\frac{\frac{3}{5}}{\frac{10}{12}}$

23) $\frac{\frac{13}{4}}{6}$

24) $\frac{4}{\frac{5}{12}}$

Round each value to the nearest whole number.

25) 59.1 26) 3.987 27) -0.9

28) 0.21 29) 39.57 30) 101.293

Round each value to the nearest tenth.

31) 6.78 32) -8.212 33) -3.068

34) 82.929 35) 15.236 36) 42.78

37) 75.02 38) -13.52 39) 9.997

Round each value to the nearest hundredth.

40) 8.456 41) -3.262 42) 8.9026

43) 6.551 44) -7.84312 45) -9.479

46) 12.007 47) 10.502 48) -6.4280

Express as a fraction in simplest form. If necessary, give fractions as improper and *not* mixed numbers.

49) 0.8 50) 0.45 51) $1.\overline{3}$

52) 12% 53) 2.5 54) 2.5%

Express as a decimal.

55) 35% 56) 0.15% 57) $9\frac{1}{2}\%$

58) $\frac{1}{50}$ 59) $\frac{6}{5}$ 60) $\frac{2}{3}$

Simplify each expression without decimals or calculators.

61) $5(x - 13)$

62) $\frac{1}{3}(x - 12)$

63) $-\frac{4}{5}(10x - 15)$

64) $\frac{2}{3}\left(24x + \frac{4}{5}\right)$

65) $\frac{0.5x+10}{2}$

66) $(x + 1) + (x - 5)$

67) $(x + 1) - (x - 5)$

Evaluate each expression.

68) $(5 \times 2) \div 2$

69) $2(3 + 6)$

70) $3 \div (2 + 1)$

71) $3 \div (5 - 2)$

72) $\frac{(-14)-(-3)\times 2}{-1}$

73) $(-5) - \frac{3x2}{-1}$

74) $(10 \div 5 + (4 - 3) \times 3) \times 6 - 6 \div 2$

75) $(5 \times 5) \div (5 \times 1^2) + 6 - 3 + 3$

76) $8 \div (2(5 + 6 - 3 -)5 - 1)) - 6)$

77) $((1 + 3 - 2 + 1) \times 2) \div (4 + 4 - 6)$

Evaluate the expression for the given values without decimals or calculators.

78) $-x^2$ for x = 4

79) $t^2 + 11$ for t = -5

80) xy^3 for x = 6 and y = -2

81) $\frac{10}{x^2}$ for x = 5

82) $4(r^2 - 3) + 7(r - 2)$ for r = -5

83) $y^2 - 5(3y - 12)$ for y = 10

84) What is the value of y for each of the given values of x?

y = -2x + 7

x	y
-8	
0	
3	

Solve each equation. If necessary, give all answers as fractions as improper fractions in simplest form and <u>not</u> decimals.

85) -x = 2

86) -3x – 9 = -16.5

87) $6(1 + 3x) - 2x = 86$

88) $84 = -7(x - 5)$

89) $132 = 4(3 - 6x)$

90) $89 = -6 + 5(5x - 1)$

91) $3n+2=5(n-3)+6$

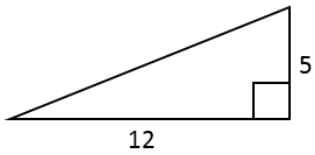
92) $4(2y+3)-3=y+3(2-y)$

93) $3(7-2n)=30-7(n+1)$

94) $6z-2(2z+5)=6(5+z)$

Use the Pythagorean Theorem to find the length of each missing side.

95)



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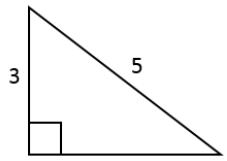

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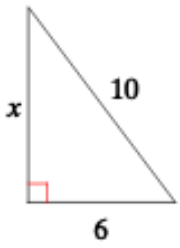

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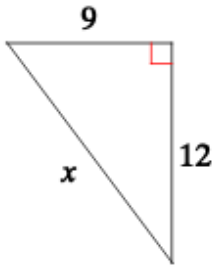


Find the slope of each line.

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

100) $y=5x$

101) $y=\frac{2}{5}x+2$

102) $y=-\frac{5}{3}x-1$

Find the slope between the given pair of points.

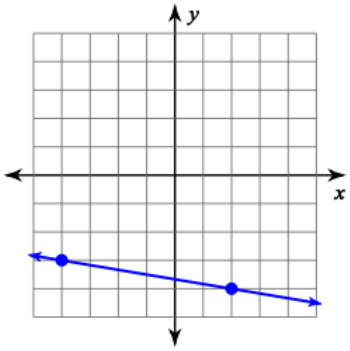
103) (11, 19) and (-5, 9)

104) (8, -10) and (-17, 20)

105) (15, 10) and (6, 4)

106) (16, 9) and (-6, 16)

107)



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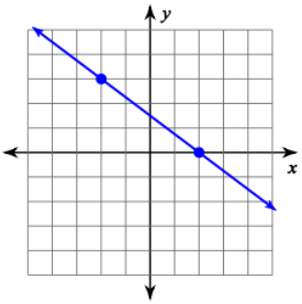

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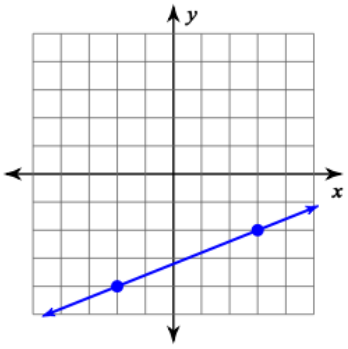

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