

## MATH 60 Day-1 Diagnostic Test

No calculators are allowed. Please show all work and completely simplify all answers.  
Read the directions for each problem carefully.

1) Subtract.  $-5 - (-2)$

6) Simplify.  $\frac{5-3(3-4)}{-1-3}$

2) Simplify.  $\frac{3}{14} \div \frac{6}{7}$

7) A \$20 pair of shoes is marked 40% off. What is the sale price?

3) Subtract.  $\frac{2}{3} - \frac{3}{5}$

8) At a grocery store you purchase a loaf of bread for \$3.98, and 2 pounds of turkey meat priced at \$5.99 per pound. You pay with a \$5 bill and a debit card. How much is charged to your card?

4) Find  $x$ .  $\frac{10}{x} = \frac{5}{3}$

5) Simplify the fraction.  $\frac{24}{36}$

9) Translate into an algebraic expression:  
“Eighty dollars more than triple the cost of a chair.”

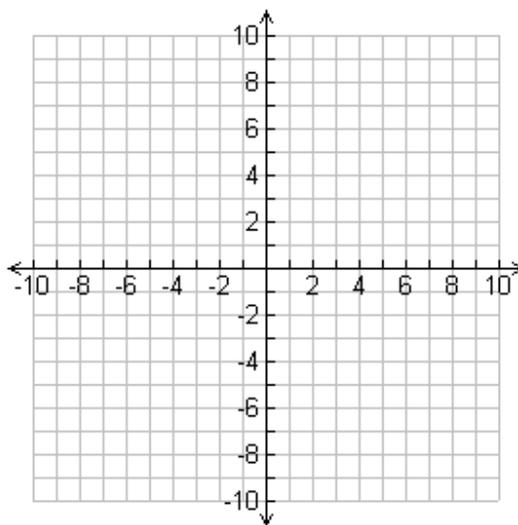
10) Simplify these algebraic expressions:

a)  $(x + y + 4z) - (2x - 5y + z)$

b) 
$$\frac{8(5a + 7c) - 6(2a + 4c)}{4}$$

11) Consider the line that contains the point  $(-5, 6)$  and has a slope  $m = -2$

- a) Graph the line on this grid. →
- b) Write the equation for the line:



12) Determine the slope of a line going through the points  $(1, -5)$  and  $(3, 9)$ .

13) The length of a table must be 2 feet more than twice its width. If its perimeter is 52 feet, what are the length and width of the table?

MATH 60 Day-1 Diagnostic Test Resource Guide **If you missed any of the Day-1 Diagnostic Test problems, it is in your best interest to review the material. Some resources are listed below for each problem.**

1) Subtract.  $-5 - (-2) = -3$

- [Khan Academy](#) to understand subtracting negative numbers
- 1.5 problems on page 46 (7 - 58) and 1.6 problems on page 53 (37 - 106, 123 - 130)

2) Simplify.  $\frac{3}{14} \div \frac{6}{7} = \frac{3}{14} \cdot \frac{7}{6} = \frac{1}{4}$

- [Khan Academy](#) to understand, and learn how to, divide a fraction by another fraction.
- 1.3 problems on page 31 (73 - 84)

3) Subtract.  $\frac{2}{3} - \frac{3}{5} = \frac{10}{15} - \frac{9}{15} = \frac{1}{15}$

- [Khan Academy](#) to understand, and learn how to, subtract a fraction from a fraction.
- 1.3 page 30 (67 - 72)

4) Find  $x$ .  $\frac{10}{x} = \frac{5}{3}$ ,  $x = 6$

- [Khan Academy](#) to solve proportions.
- Print a worksheet here; [Kuta Software](#), answers are included.

5) Simplify the fraction.  $\frac{24}{36} = \frac{2}{3}$

- [Khan Academy](#) to learn how to simplify fractions.
- 1.3 pages 23 - 26 to study and problems page 30 (35-52, 93, 96)

6) Simplify.  $\frac{5-3(3-4)}{-1-3} = -2$

- 1.8 page 67 example 8 (53 - 60)

7) A \$20 pair of shoes is marked 40% off. What is the sale price?

$$60\%(20) = 0.6(20) = \mathbf{\$12}$$

- [Khan Academy](#) to understand percents
- [Khan Academy](#) to see percent word problems worked out.

8) At a grocery store you purchase a loaf of bread for \$3.98, and 2 pounds of turkey meat priced at \$5.99 per pound. You pay with a \$5 bill and a debit card. How much is charged to your card?

- [Khan Academy](#) to see decimal word problems worked out. **\$10.96**

Do not worry about 9 - 13. You will learn this algebra in Math 60.