

Review Guide for Pre-Algebra

I) Whole numbers . Perform the indicated operations.

- 1) $3200 - 2674$
- 2) 679×506
- 3) $41661 \div 27$
- 4) Suppose Mary made scores of 65, 72 and 88 on the first three tests in math. What score did she make on the fourth test if the average score on the four tests was 80?
- 5) If a wire 70 ft long weighs 84 pounds, how much will 110 ft of the same wire weigh?

II) Decimals . Perform the indicated operations.

- 1) $4.768 + 12 + 3.05$
- 2) $35 - 25.76$
- 3) 325.3×0.0001
- 4) $33.6 \div 0.33$
- 5) $53.298 \div 4.23$
- 6) The Grays own a home with an assessed value of \$89,600. For every \$1,000 of assessed value they must pay \$6.23 in real estate taxes. How much tax must they pay on their home?
- 7) A bricklayer earns \$13.78 per hour for a 40-hour week and time and a half for each hour of overtime. If Pete worked 52 hours during the week laying bricks, how much was he paid?

III) Skills needed in working with fractions .

- 1) Write 840 as a product of prime factors.

IV) Fractions. Perform the indicated operations.

1)

$$2\frac{1}{4} + 5\frac{3}{5} + \frac{3}{8}$$

2)

$$4\frac{1}{8} - 3\frac{5}{6}$$

3)

$$\frac{3}{4} - 1\frac{4}{5} - 3\frac{1}{3}$$

4)

$$12\frac{1}{2} \cdot 4\frac{3}{8}$$

5) What distance can a car traveling at 50 mph cover in $6\frac{1}{2}$ hours?

6) What is $\frac{4}{5}$ of 1250?

V) Fractions, decimals and percents. Follow the individual instructions.

1) Convert to decimal values:

a)

$$4\frac{3}{5}$$

b)

$$\frac{2}{3}$$

c) 75.3%

2) Round 566.1847 to the nearest ten, one, tenth and hundredth.

ten

one

tenth

hundredth

- 3) Lynne receives a 1.5% commission each month on all farm equipment sales of \$20,000 or less. For all sales over \$20,000, she is paid a 3% commission on the amount over \$20,000. What is her commission on sales of \$45,280 during the month of May?
- 4) A carpet dealer has reduced all carpet prices by 40%. If the normal price of a pattern is \$16.90 per square yard, how much would it cost to buy the carpet for a room which is 4 yards wide and 5 yards long?
- 5) Find the rate of discount if a truck, originally priced at \$13,450, is sold for \$11,567.
- 6) Sara buys a stereo for \$728.50 and puts 10% down, paying the rest in 18 equal monthly payments. If the simple interest is 16%, what are her payments (to the nearest cent)?

VI) Measurement

- 1) Fencing costs \$3.20 per yard. If a rectangular pasture measuring 62 yd by 105 ft is to be fenced, how much will it cost?
- 2) A horse finished a 3 furlong workout in 50 seconds. If a furlong is equal to 1/8 of a mile, what is the horse's speed in miles per hour?

VII) Order of operations. Perform the indicated operations.

- 1) $3 + 2(5) - 3^2$
- 2) $|-12| + 3|4|$

VIII) Scientific Notation. Follow the instructions.

- 1) Write 0.0002 in scientific notation.
- 2) Simplify. Write your answer in scientific notation.

$$\frac{15 \cdot 10^2}{3 \cdot 10^{-5}}$$

IX) Integers. Perform the indicated operations.

- 1) $7 - 12 + 34 - 62$
- 2) $3(-4 - 6)$

3) $-120 \div -20$

4) $15 \div -3 - 4 \times -3$

X) Algebraic skills. Follow the instructions.

1) Solve each linear equation.

a) $-2x + 7 = 9$

b) $-7x = -42$

c) $3 - x = 7$

2) Find the value of the expression $a(b - 3c)$ if $a = 3$, $b = 4$ and $c = -1$.

3) Simplify. The variable represents a positive real number.

$$\sqrt{49x^2}$$

4) Plot these points on the coordinate system:

a) (0, 4) b) (-2, 6) c) (4, 3)

d) (-6, -1) e) (5, -2) f) (-3, 0) g) (0, 0)

