

Algebra
Chapter 3 Practice Test

Name _____
Date _____ **Period** _____

Solve each equation. Show work to justify solutions.

1a. $4y + 7 = -5$

1b. $-3x - 15 = 21$

2a. $\frac{w}{2} - 6 = 8$

2b. $\frac{-x}{3} - 10 = -13$

3a. $2y + 4(y - 5) = 10$

3b. $7 - 2(a - 3) = -5$

4a. $\frac{x}{2} - \frac{5x}{3} = 4$

4b. $\frac{3y}{4} + \frac{y}{3} = 4 + \frac{1}{2}$

$$5a. \quad 3(2x - 12) = 4x - 36 + 2x$$

$$5b. \quad 8x - (2x + 5) = 2(3x - 11)$$

$$6a. \quad 11.3x - 3.4 = 8.2x + 12.6$$

$$6b. \quad -4.1y + 9.2 = -2.7y + 8.5 + 0.4y$$

$$7a. \quad \frac{14}{15} = \frac{4}{x}$$

$$7b. \quad \frac{17}{31} = \frac{-p}{23}$$

$$8a. \quad \frac{2}{x-4} = \frac{3}{x+8}$$

$$8b. \quad \frac{y+3}{3} = \frac{2y-1}{5}$$

9a. Solve for R: $Y = ER - UT$

9b. Solve for Z: $W = \frac{1}{2}KZ + G$

10. 40 rolls of Charmin toilet paper is selling for \$54.00. 32 rolls of Quilted Northern toilet paper is selling for \$42.24.

What is the unit rate of each brand?

Which brand of toilet paper has the lower unit cost?

For #11-14, write and solve an equation for each situation.

11. The length of a rectangle is 10 feet longer than its width. The perimeter of the rectangle is 240 feet. What is the length of the rectangle? Hint: DRAW A PICTURE.

Equation: _____

Solution: _____

12. Mary is raising money for a local charity. Her goal is to raise \$2,000. She has already raised \$860 and she predicts that she will raise \$80 per day. How many days will it take her to reach her goal?

Equation: _____

Solution: _____

13. A shower faucet delivers 17.2 gallons of water in 8.2 minutes. How much water is used if the average household showers for 30 minutes?

Equation: _____

Solution: _____

14. A triangle has 2 sides that are the same length. The 3rd side is 6 feet longer than the other two sides. The perimeter of the triangle is 57 feet. What is the length of the **longest** side?
Hint: DRAW A PICTURE.

Equation: _____

Solution: _____