

# Unit 6: Expressions, Equations, and Inequalities

## ADVANCED · SET 2

Name: \_\_\_\_\_ Date: \_\_\_\_\_

*Solve each problem. Show your work and give the exact answer.*

1. Solve for  $x$ :  $-7x + 23 = -54$

Answer: \_\_\_\_\_

2. Solve for  $x$ :  $(\frac{2}{3})x - 15 = 9$

Answer: \_\_\_\_\_

3. Solve for  $x$ :  $4.5x + 12.8 = -6.7$

Answer: \_\_\_\_\_

4. Solve for  $x$ :  $-x/6 + 14 = 20$

Answer: \_\_\_\_\_

5. A repair shop charges a flat fee of \$45 plus \$28 per hour. If the total bill was \$185, how many hours did the repair take?

Answer: \_\_\_\_\_

6. Solve for  $x$ :  $12 - 5x = 47$

Answer: \_\_\_\_\_

7. Solve the inequality for  $x$  and give the smallest integer  $x$  that satisfies it:  $6x - 19 > 41$

Answer: \_\_\_\_\_

8. Solve the inequality for  $x$  and give the largest integer  $x$  that satisfies it:  $-3x + 8 > 26$

Answer: \_\_\_\_\_

9. Solve for  $x$ :  $(5x - 4)/3 = 7$

Answer: \_\_\_\_\_

10. Solve for  $x$ :  $-2.4x - 9.6 = -33.6$

Answer: \_\_\_\_\_

11. The perimeter of a rectangle is 74 cm. Its length is 5 cm more than twice its width. Using  $2(2w+5) + 2w = 74$ , find the width  $w$  in cm.

Answer: \_\_\_\_\_

12. Solve the inequality for  $x$  and give the smallest integer  $x$  that satisfies it:  $(\frac{3}{4})x + 11 \geq 26$

Answer: \_\_\_\_\_