

Unit 9: Putting It All Together

ADVANCED · SET 2

Name: _____ Date: _____

Solve each problem. Show your work on scratch paper and write your final answer in simplest form.

1. A recipe uses flour and sugar in the ratio 7:3. If you use 245 grams of flour, how many grams of sugar do you need?

Answer: _____

3. Evaluate the expression $3x^2 - 5y$ when $x = 4$ and $y = 6$.

Answer: _____

5. Simplify the expression by combining like terms: $8a + 3b - 2a + 7 - 5b + 4a$. Write your answer in the form $_a + _b + _$ (for example, $6a - 2b + 5$).

Answer: _____

7. Two paint colors are mixed in the ratio 5:8 (red to blue). A total of 91 liters of mixture is made. How many liters of blue paint are used?

Answer: _____

9. Compute: $(-3/4) + (5/6) - (-1/2)$. Write your answer as a fraction in simplest form.

Answer: _____

2. A car travels 315 kilometers in 4.5 hours at a constant speed. At the same rate, how many kilometers does it travel in 7 hours?

Answer: _____

4. A store sells 5 notebooks for \$12.50. At the same unit price, how much do 18 notebooks cost, in dollars?

Answer: _____

6. Point A is at $(-6, 5)$ and point B is at $(-6, -8)$ on the coordinate plane. What is the distance between A and B?

Answer: _____

8. A machine fills bottles at a constant rate and fills 156 bottles in 12 minutes. How many bottles does it fill in 35 minutes?

Answer: _____

10. The temperature was -7°C at 6 a.m. It rose 3°C each hour for 5 hours, then dropped 4°C . What was the final temperature in $^{\circ}\text{C}$?

Answer: _____

11. A rectangle has length $3x + 5$ and width $2x$. Find its perimeter when $x = 9$. (Perimeter = $2 \times \text{length} + 2 \times \text{width}$.)

Answer: _____

12. Three friends share prize money in the ratio 4:5:7. The person with the largest share received \$126 more than the person with the smallest share. What was the total prize money, in dollars?

Answer: _____