

Unit 9: Putting It All Together

ADVANCED

Name: _____ Date: _____

Solve each problem and give an exact answer. Show your work on a separate sheet.

1. A recipe uses flour and sugar in the ratio 5:3. If a baker uses 12.5 kg of flour, how many kg of sugar are needed?

Answer: _____

3. Solve for x: $-3(2x - 4) + 5x = 19$

Answer: _____

5. A shirt is on sale for 30% off. With an additional 15% off the sale price at checkout, and then 8% sales tax added, the final total is \$32.13. What was the original price in dollars?

Answer: _____

7. A number increased by 25% gives 90. The result is then decreased by 20%. What is the final value?

Answer: _____

9. Two workers can paint a fence in a ratio of work rates 3:2. Together they paint 45 square meters. How many square meters does the faster worker paint?

Answer: _____

11. A proportional relationship passes through the point (4, -10). What is the y-value when $x = -6$?

Answer: _____

2. A car travels 187.5 miles on 7.5 gallons of gas. At this rate, how many gallons are needed to travel 275 miles?

Answer: _____

4. Evaluate: $-2/3 - (-5/6) \times 4/5$

Answer: _____

6. The scale on a map is 2 cm : 15 km. Two cities are 7.5 cm apart on the map. What is the actual distance in km?

Answer: _____

8. Evaluate: $(-3)^2 + (-2)^3 - \sqrt{16} \times (-1/2)$

Answer: _____

10. The temperature dropped 2.5°C per hour for 6 hours, then rose 3.5°C total. If the final temperature was -4°C , what was the starting temperature in $^{\circ}\text{C}$?

Answer: _____