

SPARK Hybrid Education Center

UNIT TEST - October - Ratios & Proportions

Lower Level

Name: _____
Total: 16 questions. Show all work where indicated.

Date: _____ Period: _____

Section 1: Multiple Choice (circle best answer)

1. What is the ratio of 4 red marbles to 6 blue marbles in simplest form? A) 4:6 B) 2:3 C) 3:2 D) 1:2
2. A car travels 150 miles in 3 hours. What is the unit rate? A) 45 mph B) 50 mph C) 55 mph D) 60 mph
3. If 3 notebooks cost \$6, how much do 7 notebooks cost? A) \$12 B) \$14 C) \$16 D) \$18
4. Which proportion is correct? A) $\frac{2}{3} = \frac{4}{9}$ B) $\frac{3}{4} = \frac{9}{12}$ C) $\frac{5}{6} = \frac{10}{14}$ D) $\frac{1}{2} = \frac{3}{5}$
5. A map uses 1 cm = 50 km. What real distance is 4.5 cm? A) 200 km B) 225 km C) 250 km D) 275 km
6. Unit rate for \$24 for 8 items: A) \$2.50 B) \$3.00 C) \$3.50 D) \$4.00

Section 2: Matching - write the letter

7. ____ unit rate A) comparison of two quantities
8. ____ proportion B) rate with denominator 1
9. ____ ratio C) equation stating two ratios are equal
10. ____ scale factor D) ratio used in scale drawings
11. ____ cross multiply E) method to solve proportions

Section 3: Show Your Work

12. A recipe uses 2 cups of flour for 24 cookies. How many cups for 60 cookies? Show your proportion and solve.
13. A scale drawing shows a room as 5 cm x 8 cm. Scale: 1 cm = 3 m. Find actual dimensions.
14. Are $\frac{15}{20}$ and $\frac{9}{12}$ proportional? Show your cross-multiplication work.

Section 4: Word Problems

15. A runner completes 3 laps in 12 minutes. At this rate, how long will 8 laps take?
16. Store A: 5 lbs of apples for \$4. Store B: 8 lbs for \$6.40. Which is cheaper per pound? Show work.

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Section 1: Multiple Choice (circle best answer)

1. B) 2:3
2. B) 50 mph
3. B) \$14
4. B) $\frac{3}{4} = \frac{9}{12}$
5. B) 225 km
6. B) \$3.00

Section 2: Matching - write the letter

7. B
8. C
9. A
10. D
11. E

Section 3: Show Your Work

12. $\frac{2}{24} = \frac{x}{60} \rightarrow x = 5$ cups
13. 15 m x 24 m
14. $15 \times 12 = 180$, $20 \times 9 = 180$. Yes, proportional

Section 4: Word Problems

15. 32 minutes
16. Both are \$0.80/lb - same price