

Test, Form 3A

SCORE _____

1. Which size bag of cat food shown in the table has the lowest unit price?

Find the Unit Rate of Each

Size (oz)	Cost (\$)
24	5.49
40	8.00
64	15.99

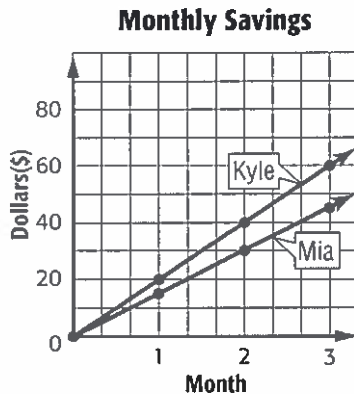
$\frac{\$5.49}{24\text{oz}} = \frac{\$2.2875}{1\text{oz}}$ $\frac{\$8.00}{40} = \frac{\$.2}{1}$

$\frac{\$15.99}{64} = \frac{\$.2498}{1}$

The 40oz is cheapest per ounce.

1. 40oz

2. The graph shows the savings of Mia and Kyle. What does the slope of each line represent?



The Slope shows the rate of $\frac{\$}{\text{Time}}$ \$Dollars per month
 "How much each person saves per month"

2. _____

3. Cyclists were $\frac{3}{5}$ finished with their ride when they reached the 15-kilometer mark. How long was their ride?

Set this up as equivalent ratios.

$\frac{3}{5} = \frac{15}{\text{total}}$

Cross multiply
 $5 \times 15 = 75$
 $3 \times \text{total} = 3x$

$\frac{25}{3} = \frac{75}{3}$ $x = 25$

4. A grocery store sells 6 bottles of water for \$4 and 18 bottles of water for \$10. Is the cost of the water proportional to the number sold? Explain.

$\frac{\$4}{6} \neq \frac{\$10}{18}$
 $\frac{2}{3} \neq \frac{5}{9}$

Solve each proportion.

Cross multiply

$\frac{k}{13} = \frac{0.6}{0.5}$ $0.6 \times 13 = 7.8$ $0.5 \times k = .5k$
 $\frac{7.8}{.5} = \frac{.5k}{.5}$ $k = 15.6$

5. $k = 15.6$

$\frac{18.2}{j} = \frac{4}{16}$
 $\frac{4j}{4} = \frac{291.2}{4}$ $j = 72.8$

6. $j = 72.8$

$\frac{6.5}{v} = \frac{3}{11.7}$
 $\frac{3v}{3} = \frac{76.05}{3}$ $v = 25.35$

7. $v = 25.35$

8. When diving, a hummingbird can reach a speed of 40 miles per hour. What is this speed in feet per second? Round to the nearest hundredth if necessary.

$\frac{40 \text{ miles}}{1 \text{ hr}} \times \frac{5280 \text{ ft}}{1 \text{ miles}} \cdot \frac{1 \text{ hr}}{3600 \text{ sec}} = 58.67 \frac{\text{ft}}{\text{sec}}$

8. $58.67 \frac{\text{ft}}{\text{sec}}$

Test, Form 3A (continued)

SCORE _____

9. Find the rate of change from the table.

Find the change each pt;

9. 2.5° per hour

Time

Temperature (°)	Temperature (°)
2	75
4	80
6	85

+2
+2

+5
+5

So the change would be
~~5~~ $\frac{5^\circ}{2 \text{ hrs}} = \frac{2.5^\circ}{1 \text{ hr}}$

10. Does the graph show a proportional relationship? Explain.

10. Yes;
 Same Slope & goes through the origin.



$$\frac{1560}{3} = \frac{3640}{x} \quad \frac{10920}{1560} = \frac{1560x}{1560}$$

11. If it takes the Ramirez family 3 days to travel 1,560 miles, how many days will it take them to travel 3,640 miles?

11. x = 7 days

12. Janelle can get a 24-pack of bottled water for \$6.80. How much would Janelle have to pay for a 12-pack of bottled water if the ratios are proportional?

12. \$3.40

Cross multiply

$\frac{\$6.80}{24} = \frac{x}{12}$ BUT 12 is half of 24 so, divide price by 2; $\frac{6.80}{2}$

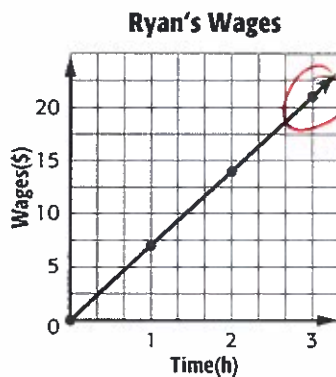
13. Find y when x = 9 if y varies directly as the square of x, and y = 245 when x = 7.

13. _____

14. Jaime and Ryan work at the grocery store. The wages earned for the weekend are shown in the table and graph. Who gets paid more per hour? Explain.

Jaime's Wages	
Time (h)	Wages (\$)
3	24
4	32
5	40

\$24



Less than

14. Jaime
 check @ 3hrs who has made more \$