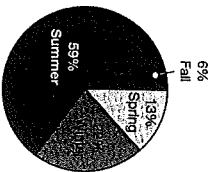


Cumulative Test 6A

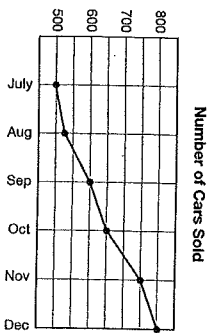
1. (6) The area of a wall mural is 15 square feet. If Kelly can paint about 180 square inches per hour, how many hours will it take her to paint the mural?

2. (22) The circle graph shows the results of a survey of 500 students who were asked to name their favorite season. Find the number of students who chose each season.



Favorite Season Survey

3. (27) The line graph shows the number of cars sold by an auto dealer in 6 months. Explain why the graph may be misleading.



4. (25) Determine the domain and the range of the relation $\{(3, 5), (3, 7), (6, 7), (4, 1), (8, 1)\}$.

Simplify problems 5–9.

5. (9) $\left(\frac{1}{3}\right)^3$

6. (4) $(6 \cdot 2) + 3 \cdot (4 + 1)$

7. (10) $\frac{3}{7} + \left(-\frac{2}{7}\right) - \frac{4}{7} - \left(-\frac{6}{7}\right)$

8. (6) $|1 - \frac{7}{8}|$

9. (18) $-3a - (-6a) + 2a$

Cumulative Test 6A

continued

10. (29) Solve $4x + 2y = 7$ for y .

Solve problems 15–19.
15. (26) $a + 4(3a + 7) = 80$

11. (17) Write "3 less than the product of 5 and b " as an algebraic expression.

16. (28) $3n = n - 8$

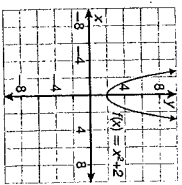
12. (14) A number cube labeled 1–6 is rolled. List the outcomes for the event that an even number is rolled.

17. (21) $3y = -15$

13. (7) Identify the subsets of real numbers to which the number $2\sqrt{5}$ belongs.

18. (23) $8a + 3 = 27$

14. (20) Use the graph to identify the domain and range of the function.



19. (24) $0.002x + 0.05 = 0.5$

20. (16) Evaluate $x[-y(x + y)]$ for $x = 2$ and $y = 3$.

1. $\frac{15}{15} \cdot \frac{14}{14} = 1.25 \text{ ft}^2$ per hr
 $180 \cdot \frac{14}{12} \cdot \frac{14}{12} = 1.25 \text{ ft}^2$

$15 \div 1.25 = 12 \text{ hrs}$

2. Fall: $62 \times 500 = 30$

Spring: $192 \times 500 = 65$

Winter: $222 \times 500 = 110$

Summer: $592 \times 500 = 295$

3. The vertical scale starts at 450, making it look like the cars have tripled, which isn't true.

4. Domain: $\{3, 4, 6, 8\}$ → all x values
 Range: $\{1, 5, 7, 3\}$ → all y values

5. $\frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} = \frac{1}{27}$

6. $(6 \cdot 2) + 3 \cdot (4 + 1)$
 $12 + 3 \cdot 5$
 $12 + 15$
 27

7. $\frac{3}{7} + (\frac{-2}{7}) - \frac{4}{7} - (\frac{-6}{7})$
 $\frac{1}{7} - \frac{4}{7} + \frac{6}{7}$
 $-\frac{3}{7} + \frac{6}{7} = \frac{3}{7}$

8. $|1 - \frac{7}{8}|$
 $|\frac{1}{8}| = \frac{1}{8}$

9. $-3a - (-6a) + 2a$
 $-3a + 6a + 2a$
 $3a + 2a$
 $5a$

10. $4x + 2y = 7$
 $-4x$
 $2y = \frac{7-4x}{2}$
 $y = \frac{7-4x}{2}$
 $y = 3.5 - 2x$

11. $5b - 3$

12. Evens = $\{2, 4, 6\}$

13. Irrational
 Real

14. Domain = all real #'s
 Range = Real #'s greater than or equal to 2.
 $y \geq 2$

15. $a + 4(3a + 7) = 80$
 $1a + 12a + 28 = 80$
 $13a + 28 = 80$
 $13a = 52$
 $a = 4$

16. $3n = n - 8$
 $2n = -8$
 $n = -4$

17. $By = -15$
 $y = -5$

18. $8a + 13 = 27$
 $8a = 14$
 $a = \frac{14}{8} = \frac{7}{4}$
 $a = 3$

19. $.002x + .008 = .50$
 $-.008$
 $.002x = .492$
 $x = \frac{.492}{.002} = 246$

20. $X[-y(x+y)]$
 $X[-y(x+y)]$
 $2[-3(2+3)]$
 $2[-3(5)] = -30$