

Do half of all questions, <sup>check</sup> answers at the back.  
 Show work on separate piece of paper

Name Exam Date \_\_\_\_\_ Class \_\_\_\_\_

Test will not be multiple choice

Ch 5-08

**CHAPTER 8 Cumulative Test**

**8** continued

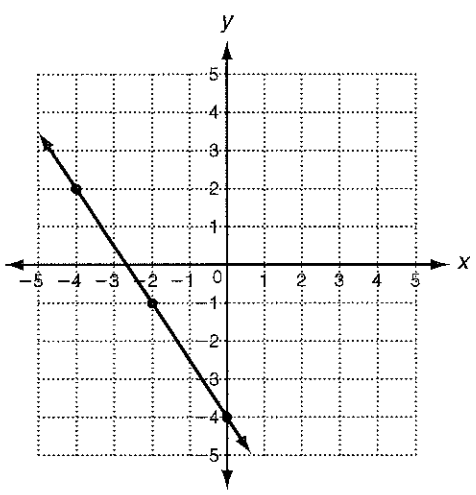
23. Which function is a linear function?  
 A  $y = \sqrt{x} - 2$       C  $y = \frac{x}{4}$   
 B  $y = \frac{3}{x} - 7$       D  $x^2 - 1 = y$

24. Study the table below. When did the coyote population decrease at the greatest rate?

Year	'98	'00	'03	'04	'06
Number of Coyote	84	80	70	68	59

- F 1998–2000      H 2003–2004  
 G 2000–2003      J 2004–2006

25. Find the slope of the line.



- A  $-\frac{3}{2}$       C  $\frac{2}{3}$   
 B  $-\frac{2}{3}$       D  $\frac{3}{2}$

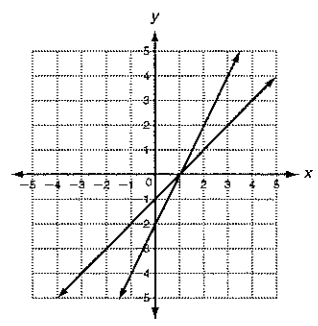
26. Which function has a y-intercept of 5?

- F  $y = 5x + 1$       H  $5y = x + 1$   
 G  $y = x + 5$       J  $5y = x + 5$

27. Which line is perpendicular to  $y = -\frac{1}{4}x - 8$ ?

- A  $y = -4x + 5$       C  $y = \frac{1}{4}x$   
 B  $y = -\frac{1}{4}x - 3$       D  $y = 4x + 2$

28. What is the solution of the system of equations represented by the graph below?



- F  $(-1, 0)$       H  $(0, -1)$   
 G  $(-1, 1)$       J  $(1, 0)$

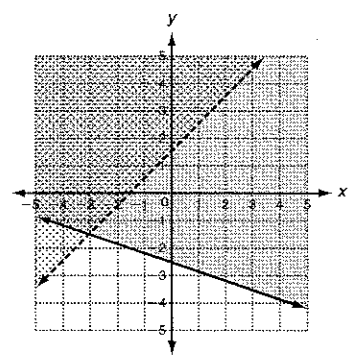
29. Solve  $\begin{cases} 3x - y = 7 \\ 2x - y = 5 \end{cases}$

- A  $(-9, -2)$       C  $(-1, 2)$   
 B  $(-2, -9)$       D  $(2, -1)$

30. Which system has no solution?

- F  $\begin{cases} y = x + 4 \\ y - x = -4 \end{cases}$       H  $\begin{cases} y = \frac{1}{2}x + 6 \\ 2x + 5 = y \end{cases}$   
 G  $\begin{cases} 2y = 2x + 8 \\ -2x = 2y - 8 \end{cases}$       J  $\begin{cases} y = 4x + 1 \\ y - 1 = 4x \end{cases}$

31. Which ordered pair is a solution of the system graphed below?



- A  $(-1, 0)$       C  $(1, 4)$   
 B  $(0, -4)$       D  $(2, 2)$

**CHAPTER 8** **Cumulative Test**  
continued

32. Evaluate  $x^0y^{-4}$  for  $x = 2$  and  $y = 3$ .

- F 0                                      H  $\frac{1}{625}$   
G  $\frac{1}{1296}$                                   J  $\frac{1}{81}$

33. Simplify  $(y^6)^{-2} \cdot y^3 \cdot y$ .

- A  $\frac{1}{y^7}$                                       C  $y^7$   
B  $\frac{1}{y^8}$                                       D  $y^8$

34. Which shows  $(1.62 \times 10^8) \times 26,000$  written in scientific notation?

- F  $4.212 \times 10^4$                       H  $4.212 \times 10^8$   
G  $4.212 \times 10^7$                       J  $4.212 \times 10^{12}$

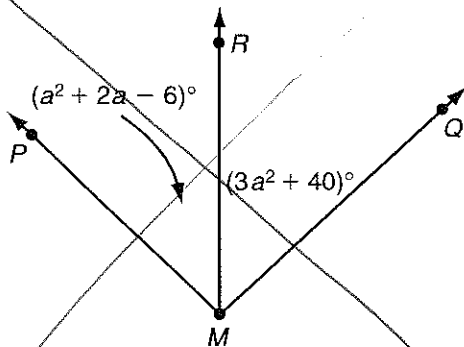
35. An actor earned  $\$1.9 \times 10^7$  for the filming of 80 TV show episodes. How much did the actor earn per episode?

- A \$152,000                              C \$1,520,000  
B \$237,500                              D \$2,375,000

36. Which describes  $2b^4 + 3b^3 - 7$ ?

- F quartic binomial  
G cubic binomial  
H quartic trinomial  
J cubic polynomial

37. Which polynomial represents the measure of angle PMQ?



- A  $a^2 + 5a + 34$                       C  $4a^2 + 2a + 34$   
B  $3a^4 + 2a + 34$                       D  $6a^5 + 34$

38. Multiply  $(7 - x)(x^2 + 2x - 3)$ .

- F  $-x^3 + 5x^2 + 17x - 21$   
G  $-x^3 + 5x^2 + 14x - 21$   
H  $-x^3 + 5x^2 + 3x$   
J  $-x^3 + 14x^2 - 21$

39. Multiply  $(2 - x)(2 + x)$ .

- A  $4 - x^2$                                   C  $4 + 4x - x^2$   
B  $4 - 2x$                                   D  $4 - 4x - x^2$

40. What is the GCF of  $8x^4$  and  $12x$ ?

- F  $2x$     H  $4x^4$   
G  $4x$     J  $8x^4$

41. Which is the complete factorization of  $6y^3 - 18y$ ?

- A  $y(6y^2 - 18)$                       C  $3y(2y^2 - 6)$   
B  $2y(3y^2 - 9)$                       D  $6y(y^2 - 3)$

42. A table has an area of  $x^2 + 13x + 40$  square feet. The width is  $(x + 5)$  feet. What is the length?

- F  $(x + 2)$  feet                      H  $(x + 8)$  feet  
G  $(x + 4)$  feet                      J  $(x + 10)$  feet

43. Which binomial is a factor of  $12x^2 - 13x - 4$ ?

- A  $(3x - 4)$                                   C  $(4x - 4)$   
B  $(3x + 1)$                                   D  $(4x - 1)$

44. Which trinomial is NOT a perfect square trinomial?

- F  $x^2 + 18x + 81$                       H  $4x^2 + 8x + 16$   
G  $x^2 - 14x + 49$                       J  $4x^2 + 4x + 1$

45. Factor  $12a^3 - 75a$  completely.

- A  $a(12a^2 - 75)$   
B  $3a(2a - 5)^2$   
C  $3a(4a^2 - 25)$   
D  $3a(2a + 5)(2a - 5)$

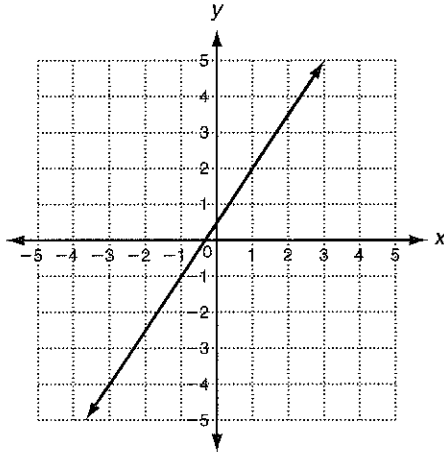
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**CHAPTER 7**

**Cumulative Test**

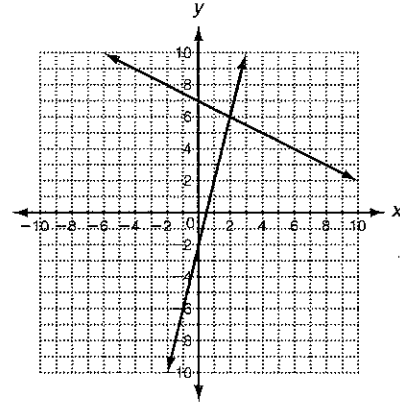
continued

24. What is the slope of the line graphed below?



- F**  $\frac{1}{2}$                       **H**  $\frac{3}{2}$   
**G**  $\frac{2}{3}$                         **J**  $\frac{4}{3}$
25. What are the slope and y-intercept of the line described by  $y - 2x = 6$ ?
- A**  $m = -2; b = 6$   
**B**  $m = 2; b = 6$   
**C**  $m = -2; b = -3$   
**D**  $m = 2; b = -3$
26. Which equation describes a line that is parallel to  $y = \frac{3}{4}x - 10$ ?
- F**  $y = -\frac{3}{4}x - 9$   
**G**  $y = -\frac{4}{3}x - 9$   
**H**  $y = \frac{3}{4}x - 9$   
**J**  $y = \frac{4}{3}x - 9$
27. Which describes the effect on  $f(x) = \frac{1}{2}x + 2$  if the slope changes to 1?
- A** graph shifts down 1  
**B** graph shifts up 1  
**C** graph becomes steeper  
**D** graph becomes less steep

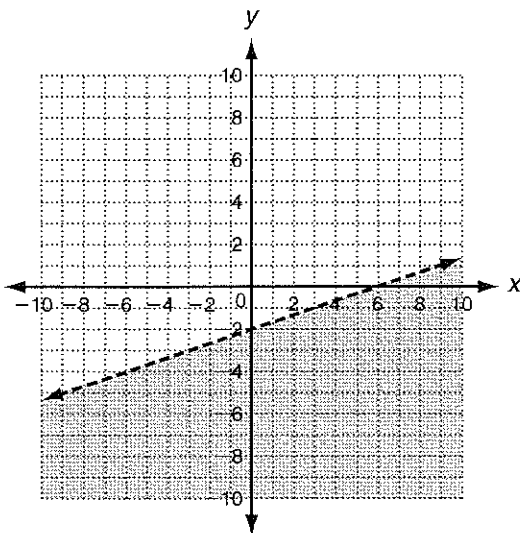
28. Which ordered pair is the solution of the system graphed below?



- F** (0, 7)                      **H** (1, 2)  
**G** (2, 6)                      **J** (0, -2)
29. Solve  $\begin{cases} 2x + 3y = 4 \\ 3x - 3y = -9 \end{cases}$
- A** (2, 0)                      **C** (1, -2)  
**B** (-1, 2)                      **D** (0, 3)
30. Zahra spent \$20.50 on 10 party favors for her party. The boys each received a puzzle book that cost \$1.75 each. The girls each received a magic trick that cost \$2.25 each. How many boys and how many girls attended the party?
- F** 4 boys and 6 girls  
**G** 5 boys and 5 girls  
**H** 6 boys and 4 girls  
**J** 7 boys and 3 girls
31. What is true about the equations of a system if the system is classified as consistent and dependent?
- A** Their slopes are the same, but their y-intercepts are different.  
**B** Their slopes are different, but their y-intercepts are the same.  
**C** Their slopes are the same, and their y-intercepts are the same.  
**D** Their slopes are different, and their y-intercepts are different.

**CHAPTER 7** **Cumulative Test**  
continued

32. Which inequality is represented by the graph below?



- F  $y \leq \frac{1}{3}x - 2$       H  $y \geq \frac{1}{3}x - 2$   
 G  $y > \frac{1}{3}x - 2$       J  $y < \frac{1}{3}x - 2$

33. Which expression below is equivalent to  $\frac{2a^{-3}}{b^{-2}}$ ?

- A  $\frac{b^2}{2a^3}$       C  $\frac{2a^2}{b^3}$   
 B  $\frac{2a^3}{b^2}$       D  $\frac{2b^2}{a^3}$

34. The country of South Africa has an area of about 1,220,000 sq. km. Which of the following shows the area of South Africa in scientific notation?

- F  $1.22 \times 10^{-6}$       H  $122 \times 10^4$   
 G  $1.22 \times 10^6$       J  $122 \times 10^{-4}$

35. Which expression below is equivalent to  $x^2y^3x^4$ ?

- A  $x^2y^3x^2$       C  $(xy)^9$   
 B  $x^2y^3$       D  $x^6y^3$

36. A certain box of nails contains  $2 \times 10^2$  nails. How many nails are there in  $12 \times 10^3$  boxes?

- F  $6 \times 10^5$       H  $2.4 \times 10^5$   
 G  $6 \times 10^6$       J  $2.4 \times 10^6$

37. The height of a rocket, in meters, is approximated by the polynomial  $-5t^2 + 45t + 4$  where  $t$  is time in seconds. What is the height of the rocket after 3 seconds?

- A 86 meters      C 109 meters  
 B 94 meters      D 124 meters

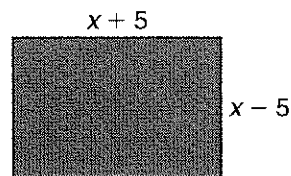
38. The weight of a car is modeled with the polynomial  $x^2 + 10x + 200$ . The weight of a truck is modeled with the polynomial  $x^3 - x + 100$ . Which polynomial represents the combined weight of the car and truck?

- F  $x^3 + x^2 + 9x + 300$   
 G  $x^5 + 9x + 300$   
 H  $x^5 + 9x^2 + 300$   
 J  $x^6 + 9x^2 + 300$

39. Use the FOIL method to find the product:  $(a^2 + 3)(-b + 4)$ .

- A  $-a^2b + 4a^2 - 3b + 12$   
 B  $3a^2b - 3b + 12$   
 C  $a^2 - 3b + 12$   
 D  $a^2 - b + 7$

40. What is the area of the figure below?



- F  $x^2 - 25x$       H  $x^2 - 10x - 25$   
 G  $x^2 - 25$       J  $x^2 + 10x + 25$

## Answer Key continued

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- 7. B
- 8. J
- 9. C
- 10. J
- 11. B
- 12. H
- 13. D
- 14. F
- 15. C
- 16. F
- 17. B
- 18. J
- 19. C
- 20. F
- 21. C
- 22. F
- 23. C
- 24. J
- 25. A
- 26. G
- 27. D
- 28. J
- 29. D
- 30. F
- 31. C
- 32. J
- 33. B
- 34. J
- 35. B
- 36. H
- 37. C
- 38. F
- 39. A

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Test

- 40. G
- 41. D
- 42. H
- 43. A
- 44. H
- 45. D

### CHAPTER 9

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#### Section Quiz: Lessons 9-1 to 9-4

- 1. B
- 2. H
- 3. D
- 4. G
- 5. A
- 6. G
- 7. A
- 8. J
- 9. B
- 10. F

#### Section Quiz: Lessons 9-5 to 9-9

- 1. B
- 2. F
- 3. C
- 4. G
- 5. D
- 6. F
- 7. C
- 8. H
- 9. A
- 10. H
- 11. B
- 12. F

## Answer Key continued

4. 12 millionths
5. 5 trillionths
6. 69 thousandths
7.  $10^{12}$
8.  $10^9$
9.  $10^6$
10.  $10^3$
11.  $10^{-3}$
12.  $10^{-6}$
13.  $96 \times 10^9$
14.  $108 \times 10^3$
15.  $4 \times 10^{-6}$
- 16.

Scientific	between 1 and 10	exponent is any integer
Engineering	between 1 and 1000	exponent is a multiple of 3

17.  $580 \times 10^3$

### Cumulative Test

1. B
2. F
3. B
4. H
5. B
6. J
7. B
8. J
9. C
10. G
11. C
12. F
13. D

14. H
15. B
16. G
17. B
18. G
19. D
20. H
21. C
22. G
23. C
24. H
25. B
26. H
27. C
28. G
29. B
30. F
31. C
32. J
33. D
34. G
35. D
36. J
37. B
38. F
39. A
40. G

Ch 5 - Ch 7 Cumulative Test

### CHAPTER 8

#### Section Quiz: Lessons 8-1 to 8-4

1. A
2. J
3. B