

CHAPTER  
2

## Cumulative Test

Select the best answer.

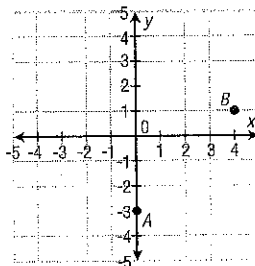
- Which of the following does NOT describe  $x - 4$ ?  
 A the difference of  $x$  and 4  
 B 4 less than  $x$   
 C  $x$  less than 4  
 D  $x$  decreased by 4
- Evaluate  $a \div b$  for  $a = 10$  and  $b = -5$ .  
 F  $-2$                       H  $\frac{1}{2}$   
 G  $-\frac{1}{2}$                       J 2
- Add  $-14 + (-4)$ .  
 A  $-18$                       C 10  
 B  $-10$                       D 18
- Evaluate  $x - 15$  for  $x = -2$ .  
 F  $-17$   
 G  $-13$   
 H 13  
 J 17
- Divide  $\frac{1}{4} \div -\frac{2}{5}$ .  
 A  $-\frac{5}{8}$   
 B  $-\frac{1}{10}$   
 C  $\frac{1}{10}$   
 D  $\frac{5}{8}$
- Multiply  $-\frac{1}{3} \times -\frac{3}{5}$ .  
 F  $-\frac{5}{9}$   
 G  $-\frac{1}{5}$   
 H  $\frac{1}{5}$   
 J  $\frac{5}{9}$
- Evaluate  $\frac{x}{6}$  for  $x = -3$ .  
 A  $-2$                       C  $\frac{1}{2}$   
 B  $-\frac{1}{2}$                       D 2
- Evaluate  $2^3$ .  
 F 4                              H 6  
 G 5                              J 8
- Evaluate  $(-10)^2$ .  
 A  $-100$                       C 20  
 B  $-20$                       D 100
- Evaluate  $-\left(\frac{2}{3}\right)^4$ .  
 F  $-\frac{8}{12}$   
 G  $-\frac{16}{81}$   
 H  $\frac{16}{81}$   
 J  $\frac{8}{12}$
- Find  $\sqrt{16}$ .  
 A 4                              C 32  
 B 8                              D 256
- Find  $-\sqrt{144}$ .  
 F  $-72$                       H 12  
 G  $-12$                       J 72
- Kayla purchased a square picnic blanket that covers 28 square feet. Estimate the length of one side of the blanket to the nearest foot.  
 A 5 feet  
 B 6 feet  
 C 13 feet  
 D 14 feet

**CHAPTER 2** **Cumulative Test**  
continued

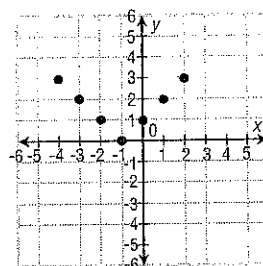
Select the best answer.

14. Which of the following is an irrational number?  
 F -5                                      H  $\frac{2}{5}$   
 G 0    J  $\sqrt{2}$
15. Simplify  $2^3 - 4 + 6 \div 2$ .  
 A 3    C 5  
 B 4    D 7
16. Evaluate  $-4(3 + x)^2$  for  $x = -2$ .  
 F -100                                      H 8  
 G -4    J 16
17. Translate *the square root of the sum of 3 and x* into an algebraic expression.  
 A  $\sqrt{3 + x}$                                       C  $(3x)^2$   
 B  $\sqrt{3x}$     D  $(3 + x)^2$
18. Which expression CANNOT be simplified further?  
 F  $3x + 4x$   
 G  $2x^2 + x^2$   
 H  $5a + 5b$   
 J  $4a^3 - 2a^3$
19. Simplify  $-2(t + 7) - 4t$ .  
 A  $-6t + 7$   
 B  $-6t - 14$   
 C  $-6t + 14$   
 D  $6t - 14$
20. Justify the move from Step 1 to Step 2 below.  
 Step 1:  $-3(4x + 2)$   
 Step 2:  $-12x - 6$   
 F Commutative Property  
 G Associative Property  
 H Distributive Property  
 J Combine like terms

Use this coordinate plane for questions 21 and 22.



21. What are the coordinates of point A?  
 A (-3, 0)                                      C (3, 0)  
 B (0, -3)                                      D (0, 3)
22. In which quadrant does point B lie?  
 F I    H III  
 G II    J IV
23. A cable company charges \$35 to begin service and \$20 per-month. Which rule represents the total charge for  $x$  months of-service?  
 A  $y = 35x + 20$                                       C  $y = 20(35)x$   
 B  $y = 20x + 35$                                       D  $y = (35 + 20)x$
24. Which function was used to generate the ordered pairs graphed below?



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

**CHAPTER  
2****Cumulative Test**

continued

Select the best answer.

25. Solve  $2 + b = -1$ .  
A -3                      C 1  
B -1                      D 3
26. Solve  $\frac{2}{3} = y - \frac{1}{3}$ .  
F -1  
G  $-\frac{1}{3}$   
H  $\frac{1}{3}$   
J 1
27. Solve  $\frac{m}{3} = 9$ .  
A 3                      C 12  
B 6                      D 27
28. Solve  $14 = -2y$ .  
F -28                    H 7  
G -7                     J 28
29. Solve  $\frac{3}{4}x = 2$ .  
A  $\frac{3}{8}$   
B  $\frac{2}{3}$   
C  $\frac{3}{2}$   
D  $\frac{8}{3}$
30. Solve  $\frac{1}{2} = \frac{2}{5}y$ .  
F  $\frac{1}{10}$   
G  $\frac{1}{5}$   
H  $\frac{5}{4}$   
J  $\frac{5}{2}$
31. Solve  $-\frac{g}{10} = 10$ .  
A -100                  C 1  
B -1                      D 100
32. Solve  $-2x + 4 = -10$ .  
F -7                      H 3  
G -3                      J 7
33. Solve  $-\frac{n}{5} + 8 = 18$ .  
A 50                      C -2  
B 2                        D -50
34. Solve  $-5t - 3 + 2t = 24$ .  
F -9                      H 7  
G -7                      J 9
35. Solve  $5x = -2x + 1$ .  
A  $-\frac{1}{3}$                       C  $\frac{1}{7}$   
B  $-\frac{1}{7}$                       D  $\frac{1}{3}$
36. Solve  $10x + 9 = 3 + 2(x - 5)$ .  
F -2  
G  $-\frac{11}{8}$   
H  $-\frac{4}{3}$   
J  $\frac{1}{4}$
37. A decorator charges \$40 for an initial consultation, then \$80 per hour. Another decorator just charges \$90 per hour. How long is a job for which the two decorators charge the same price?  
A 1 hour  
B 2 hours  
C 4 hours  
D 8 hours

**Cumulative Test**

continued

Select the best answer.

38. Solve  $A = bh$  for  $b$ .

F  $b = Ah$

H  $b = hA$

G  $b = \frac{A}{h}$

J  $b = \frac{h}{A}$

39. Solve  $wx + 4z = 3$  for  $z$ .

A  $z = \frac{3}{4} - wx$

B  $z = \frac{3 - wx}{4}$

C  $z = 4(3 - wx)$

D  $z = \frac{3 + wx}{4}$

40. Molly jogged at a rate of 6 miles per hour. What was her speed in feet per second?

F 8.8 ft/s

G 14.7 ft/s

H 176 ft/s

J 528 ft/s

41. A model of a boat is 13.2 inches long. The scale of the model to the original is 2 inches:5 feet. How long is the boat?

A 5 ft

C 33 ft

B 6.6 ft

D 132 ft

43. Find 85% of 220.

A 33

B 187

C 272

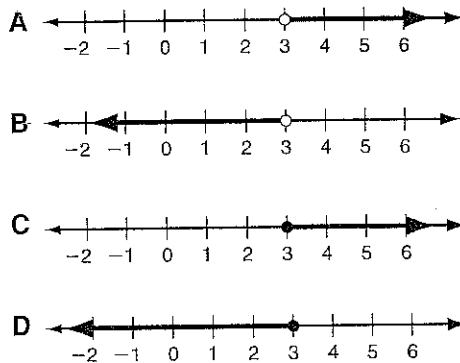
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**CHAPTER**  
**3**

**Cumulative Test**

continued

29. Which is the graph of  $x > 3$ ?

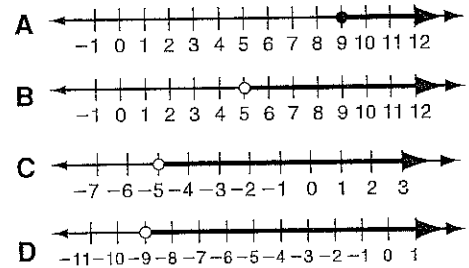


30. Which inequality could represent the following situation:

*The project must be completed in 6 days or less.*

- F  $d < 6$                       H  $d > 6$   
G  $d \leq 6$                       J  $d \geq 6$

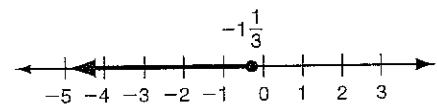
31. Which graph represents the solutions of  $b + 7 > -2$ ?



32. A parking lot holds 42 cars. There are 26 cars in the lot already. Which inequality can be solved to show all the numbers of cars  $c$  that can still park in the lot?

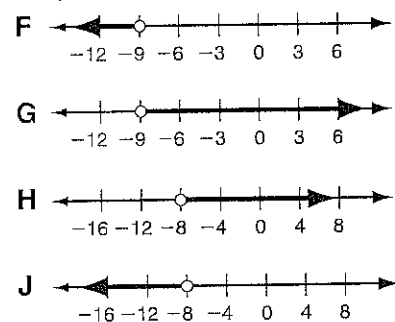
- F  $26 + c < 42$                       H  $26 + 42 < c$   
G  $26 + c \leq 42$                       J  $26 + 42 \leq c$

33. Which inequality has the solutions shown below?



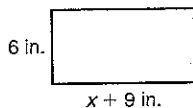
- A  $-8p \leq 6$                       C  $-6p \leq 8$   
B  $-8p \geq 6$                       D  $-6p \geq 8$

34. Which graph represents the solutions of  $-2(5 + x) < 2^3$ ?



**CHAPTER 3** **Cumulative Test**  
continued

35. The area of the rectangle shown is more than 72 square inches. Which inequality can be used to find  $x$ ?

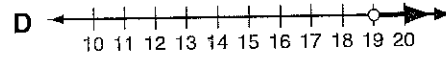
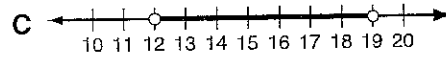
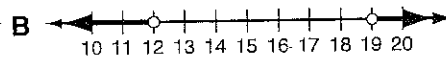
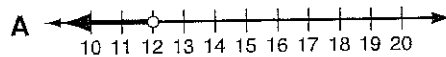


- A  $12 + 2(x + 9) > 72$   
 B  $12 + 2(x + 9) \geq 72$   
 C  $6(x + 9) > 72$   
 D  $6(x + 9) \geq 72$
36. Mrs. Mott called two companies about getting new uniforms for the soccer team. The first company she called charges \$70 per uniform. The second company she called charges \$280 plus \$30 per uniform. For how many uniforms will the cost from the first company be less expensive than the cost from the second company?
- F less than 7      H 8  
 G 7      J more than 8
37. Solve  $2x + 3 \geq x + x + 1$ .
- A  $x \geq -\frac{1}{2}$   
 B  $x \geq 1$   
 C no solutions  
 D all real numbers

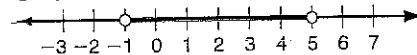
38. Solve  $\frac{2}{3}(9 - x) < \frac{1}{3}x$ .

- F  $x < -18$       H  $x > 6$   
 G  $x > 4\frac{1}{2}$       J  $x > 12$

39. Which of the following is a graph of the solutions of  $2x < 24$  OR  $x - 6 > 13$ ?



40. Which compound inequality is shown by the graph below?



- F  $f \geq -1$  AND  $f > 5$   
 G  $f \geq -1$  AND  $f < 5$   
 H  $f \geq -1$  OR  $f > 5$   
 J  $f \geq -1$  OR  $f < 5$

## Answer Key continued

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6. Since tax is 2.9% a good multiplier would be 5. Her tip would come to  $5 \times 0.20 = \$1.00$  which would be an underestimate of the \$1.20 that an exact 15% tip would be.
7. 3 would be the best multiplier because it would give them a 21% tip. They would estimate a \$8.70 which would be an overestimate. The exact tip would be \$8.26.

### Cumulative Test

1. C
2. F
3. A
4. F
5. A
6. H
7. B
8. J
9. D
10. G
11. A
12. G
13. A
14. J
15. D
16. G
17. A
18. H
19. B
20. H
21. B
22. F
23. B
24. J

25. A
26. J
27. D
28. G
29. D
30. H
31. A
32. J
33. D
34. F
35. C
36. F
37. C
38. G
39. B
40. F
41. C
42. H
43. B
44. F
45. A
46. G
47. B
48. H
49. D
50. G

### CHAPTER 3

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#### Section Quiz: Lessons 3-1 to 3-3

1. A
2. J
3. B
4. J

## Answer Key continued

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3 a.  $20 \leq 4g + 17.94 \leq 21$

b.  $0.515 \leq p \leq 0.765$

c. \$0.59 or \$0.69

### Cumulative Test

1. B
2. G
3. A
4. G
5. A
6. J
7. B
8. H
9. C
10. H
11. D
12. F
13. C
14. J
15. B
16. F
17. C
18. J
19. B
20. G
21. C
22. J
23. C
24. G
25. B
26. J
27. C
28. G
29. A

30. G

31. D

32. G

33. D

34. G

35. C

36. F

37. D

38. H

39. B

40. G

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### CHAPTER 4

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

1. D
2. G
3. C
4. H
5. B
6. F
7. C
8. F

#### Section Quiz: Lessons 4-5 to 4-6

1. D
2. F
3. B
4. G
5. C
6. J
7. B
8. G
9. C



