Name _____ Date _____ Class _____

Cumulative Test

Select the best answer.

1. Evaluate $-9 - (-7)$.

  A -16

  B -2

  C 2

  D 16

2. Evaluate $(-2)(4)(-6)$.

  F -48

  G -12

  H 12

  J 48

3. What is 25% of 120?

  A 25

  B 30

  C 60

  D 145

4. 30 is what percent of 150?

  F 0.2%

  G 2.0%

  H 20%

  J 200%

5. One side of a cube measures 5 inches. What is the cube's surface area?

  A 25 cubic inches

  B 125 square inches

  C 150 cubic inches

  D 150 square inches

6. A rectangular box measures 4 cm by 3 cm by 5 cm. What is the volume of the box?

  F 17 cubic cm

  G 20 cubic cm

  H 60 cubic cm

  J 94 cubic cm

7. Find the greatest common factor of 25 and 75.

  A 5

  B 25

  C 75

  D 125

8. Write 60 as a product of prime factors.

  F $2^2 \cdot 3 \cdot 5$

  G $3 \cdot 4 \cdot 5$

  H $3 \cdot 20$

  J $60 \cdot 1$

9. Evaluate $\frac{1}{3} \cdot \frac{1}{2}$.

  A $\frac{1}{6}$

  B $\frac{1}{5}$

  C $\frac{2}{5}$

  D $\frac{5}{6}$

10. Evaluate $\frac{5}{8} - \frac{1}{4}$.

  F $\frac{5}{8}$

  G $\frac{1}{2}$

  H $\frac{3}{4}$

  J 1

11. Evaluate $\frac{3}{7} \cdot \frac{5}{8}$.

  A $\frac{8}{56}$

  B $\frac{15}{56}$

  C $\frac{8}{15}$

  D $\frac{15}{7}$

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

continued

12. Evaluate $\frac{7}{9} \div \frac{2}{3}$.

F $\frac{14}{27}$

G $\frac{5}{6}$

H $\frac{7}{6}$

J $\frac{13}{9}$

13. The legs of a right triangle measure 4 cm and 3 cm. What does the hypotenuse of the right triangle measure?

A 1 cm

B 5 cm

C 7 cm

D 25 cm

14. What are the possible outcomes of flipping a two-sided coin 2 times?

F [*HT, TH*]

G [*HT, TH, HH, TT*]

H [*TTTT, HHHH*]

J [*TT, TT, HH, HH*]

15. If a number cube labeled 1 through 6 is rolled, what is the probability of rolling a 2 or a 5?

A $\frac{1}{6}$

B $\frac{1}{3}$

C $\frac{5}{6}$

D $\frac{7}{6}$

16. Use interval notation to represent $-4 < x$.

F $(-\infty, -4)$

G $(-4, 0)$

H $(-4, \infty]$

J $(-4, \infty)$

17. Identify the property demonstrated by $3 + 0 = 3$.

A Associative Property

B Commutative Property

C Distributive Property

D Additive Identity Property

18. Use mental math to find the 15% tip for a $14.80 restaurant bill.

F $0.74

G $1.48

H $2.22

J $17.02

19. Estimate $\sqrt{34}$ to the nearest tenth.

A 5.0

B 5.5

C 5.8

D 6.0

20. Simplify $\frac{4\sqrt{7}}{\sqrt{3}}$.

F $\frac{4\sqrt{21}}{\sqrt{9}}$

G $\frac{4\sqrt{21}}{3}$

H $\frac{4\sqrt{21}}{\sqrt{3}}$

J $4\sqrt{7}$

21. Simplify $8\sqrt{3} - \sqrt{27}$.

A $-\sqrt{3}$

B $4\sqrt{3}$

C $5\sqrt{3}$

D $11\sqrt{3}$

22. Evaluate $x - 2xy - 3y$ for $x = -2$ and $y = 6$.

F 4

G 6

H 40

J 44

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CHAPTER	**Cumulative Test**
2	continued

23. Simplify $x(5 - 3y) - xy + 3y^2$.

A $5x - 7xy^2$

B $5x - 4xy + 3y^2$

C $5x + xy + 3y^2$

D $5x + 4xy + 3y^2$

24. Evaluate $(-2)^{-3}$.

F $-\dfrac{1}{8}$ **H** $\dfrac{1}{8}$

G $\dfrac{1}{6}$ **J** 8

25. Simplify $\left(\dfrac{2xy^5}{x^2y^{10}}\right)^3$. Assume all variables are nonzero.

A $8x^3y^{15}$ **C** $\dfrac{2}{x^3y^{15}}$

B $\dfrac{2}{xy^5}$ **D** $\dfrac{8}{x^3y^{15}}$

26. Evaluate the expression $\dfrac{3.0 \times 10^{-9}}{4.0 \times 10^6}$ and write the answer using scientific notation.

F 0.75×10^{-17}

G 0.75×10^{-15}

H 7.5×10^{-16}

J 7.5×10^{-14}

27. What is the range of the relation shown in the table?

Number of Hats Sold This Week				
Day	**MON**	**TUE**	**WED**	**THU**	**FRI**
Number	10	8	8	6	7

A {6, 7, 8, 10}

B {10}

C (MON, 10)

D {MON, TUE, WED, THU, FRI}

28. Evaluate $f(x) = -4x - 7$ for $f(3)$.

F -19 **H** 5

G -7 **J** 19

29. Which function R represents the number of miles remaining in a 4700-mile trip after driving m miles?

A $R(m) = 4700 \cdot m$

B $R(m) = 4700 \div m$

C $R(m) = 4700 + m$

D $R(m) = 4700 - m$

30. The points $\{(-4, 8), (0, 4), (6, 12)\}$ are on the graph of function f. What are the coordinates of these three points after a horizontal stretch by a factor of 2?

F $\{(-8, 8), (0, 4), (12, 12)\}$

G $\{(-8, 16), (0, 8), (12, 24)\}$

H $\{(-4, 4), (0, 4), (3, 12)\}$

J $\{(-2, 8), (0, 4), (3, 12)\}$

31. Solve $7x + 9 = 9 + 10x - (-3) - 3x$.

A $x = 0$

B $x = 1$

C all real numbers

D no solution

32. Solve $8x - 6 \leq -2x + 14$.

F $x \leq -2$

G $x < 2$

H $x \leq 2$

J $x \leq \dfrac{10}{3}$

33. Solve $\dfrac{5}{7} = \dfrac{x}{6}$.

A $x = \dfrac{7}{30}$

B $x = \dfrac{30}{7}$

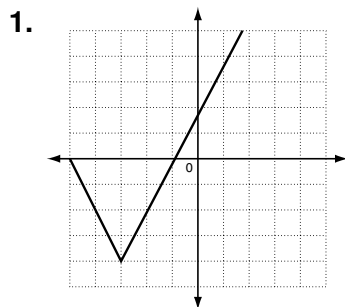**C** $x = \dfrac{35}{6}$

D $x = \dfrac{42}{5}$

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34. The right triangles *ABC* and *DEF* are similar. The hypotenuse of △*ABC* measures 5 cm and the hypotenuse of △*DEF* measures 35 cm. If one of the legs of △*ABC* measures 6 cm, what does the corresponding leg of △*DEF* measure?

F 25 cm   **H** 42 cm

G 30 cm   **J** 48 cm

35. Which set of points could represent a linear function?

A $\{(2, 6), (5, 4), (8, 2), (11, 0)\}$

B $\{(2, 6), (5, 4), (11, 2), (11, 0)\}$

C $\{(2, 6), (5, 5), (8, 3), (11, 1)\}$

D $\{(2, 6), (5, 5), (9, 2), (11, 0)\}$

36. A line has slope $-\dfrac{5}{7}$ and passes through $(2, 8)$. Which of these points is also on the line?

F $(-5, -15)$ **H** $(2, 3)$

G $(-5, 13)$ **J** $(7, 15)$

37. What is the *x*-intercept of the line $3x + 5y = 45$?

A $x = 3$ **C** $x = 9$

B $x = 5$ **D** $x = 15$

38. What is $5x - y - 25 = 0$ in slope-intercept form?

F $y = -5x - 25$ **H** $y = 5x - 25$

G $y = -5x + 25$ **J** $y = 5x + 25$

39. Which is the equation of the line parallel to $y = -3x - 6$ and passing through $(4, 11)$?

A $y = -3x + 1$ **C** $y = -3x + 27$

B $y = -3x + 23$ **D** $y = \dfrac{1}{3}x + \dfrac{29}{3}$

40. If $g(x)$ is a horizontal translation 5 units left of $f(x) = -2x - 6$, what is the rule for $g(x)$?

F $g(x) = -2x - 16$ **H** $g(x) = -2x - 1$

G $g(x) = -2x - 11$ **J** $g(x) = -2x + 4$

41. If $g(x)$ is a horizontal stretch by a factor of 2 followed by a reflection across the *x*-axis of $f(x) = -6x + 16$, what is the rule for $g(x)$?

A $g(x) = -12x + 16$

B $g(x) = -3x + 16$

C $g(x) = 3x - 16$

D $g(x) = 12x - 16$

42. Solve $-3x \le -9$ OR $4x + 2 < 6$.

F $\{x \mid -3 \le x < 1\}$

G $\{x \mid 3 < x \le 3\}$

H $\{x \mid x < 1\}$

J $\{x \mid x < 1 \text{ or } x \ge 3\}$

43. Solve $|x + 3| = 15$.

A $\{x \mid -18 \le x \le 12\}$

B $x = -18$

C $x = -18$ or $x = 12$

D $x = 12$

44. Solve $\dfrac{|3x + 1|}{5} > 1$.

F $\left\{x \mid -2 < x < \dfrac{4}{3}\right\}$

G $\left\{x \mid x < -2 \text{ or } x > \dfrac{4}{3}\right\}$

H $\left\{x \mid x < \dfrac{4}{3}\right\}$

J $\left\{x \mid 2 < x < \dfrac{4}{3}\right\}$

45. If $g(x)$ is a horizontal translation 6 units right of $f(x) = |x| - 2$, what is the rule for $g(x)$?

A $g(x) = |x| - 8$

B $g(x) = |x| + 4$

C $g(x) = |x - 6| - 2$

D $g(x) = |x + 6| - 2$

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Answer Key continued

15. $g(x) = \frac{9}{2}x - 4$

16. positive correlation, $y = \frac{3}{4}x + 25$

17. all real numbers

18. $x = \frac{9}{5}$

19. $-1 < x < \frac{3}{5}$

20. $g(x) = -(2\,|x - 4| - 2)$

21. $g(x) = |x - 3| + 1$

Performance Assessment

1.

2. $f(x)$ vertically stretched by a factor of 2, translated horizontally left 3 units, then translated vertically down 4 units yields $g(x)$

3. x-intercepts: $(-1, 0)$ and $(-5, 0)$; y-intercept $(0, 2)$

4. region below graph should be shaded with boundary line included

5. Answers should include discussion of choosing a point in the solution region and verifying that it satisfies the inequality.

Cumulative Test

1. B

2. J

3. B

4. H

5. D

6. H

7. B

8. F

9. D

10. F

11. B

12. H

13. B

14. G

15. B

16. J

17. D

18. H

19. C

20. H

21. C

22. F

23. B

24. F

25. D

26. H

27. A

28. F

29. D

30. F

31. D

32. H

33. B

34. H

35. A

36. G

37. D

38. H

39. B

40. F

41. C

42. J

43. C

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44. G

45. C

CHAPTER 3

Section Quiz: Section A

1. D

2. H

3. B

4. F

5. D

6. F

7. C

8. J

Section Quiz: Section B

1. B

2. G

3. D

4. G

5. A

6. H

7. B

Chapter Test Form A

1. B

2. A

3. C

4. B

5. C

6. A

7. B

8. B

9. A

10. B

11. C

12. A

13. B

14. C

15. B

16. B

17. A

18. A

19. A

20. A

Chapter Test Form B

1. C

2. F

3. C

4. G

5. C

6. J

7. B

8. H

9. C

10. F

11. D

12. H

13. C

14. G

15. C

16. G

17. B

18. F

19. D

20. H

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