Name _____ Date _____ Class _____

Cumulative Test

Select the best answer.

1. Find the next three terms of the sequence 9, 13, 17, 21, 25, … .

 A 25, 25, 25

 B 28, 31, 34

 C 29, 33, 37

 D 30, 35, 40

2. Evaluate $9 - 17$.

 F -26

 G -8

 H -7

 J 8

3. Evaluate $3 \cdot 5 + 7 \cdot 4$.

 A 43

 B 53

 C 144

 D 420

4. What is the absolute value of -13?

 F -13

 G 0

 H 13

 J 169

5. Evaluate $15 - 8.37$.

 A -822

 B 6.63

 C 7

 D 23.37

6. Evaluate $6 + (-5)$.

 F -30

 G -1

 H 0

 J 1

7. Evaluate $-4 - (-9)$.

 A -13

 B -5

 C 5

 D 13

8. What is the reciprocal of $\frac{-5}{8}$?

 F $\frac{-8}{5}$

 G $\frac{5}{8}$

 H 1

 J $\frac{8}{5}$

9. Evaluate $(-6)(-5)$.

 A -30

 B -11

 C 11

 D 30

10. Evaluate $(-12) \div (3)$.

 F -6

 G -4

 H 4

 J 6

11. A wall is 7 meters wide and 3 meters tall. What is the area of the wall?

 A 4 square meters

 B 10 square meters

 C 20 square meters

 D 21 square meters

12. What is $\frac{12}{36}$ in simplest terms?

 F $\frac{1}{3}$

 G $\frac{2}{6}$

 H $\frac{3}{9}$

 J 3

Holt Algebra 2

CHAPTER **1** **Cumulative Test**
continued

13. Write $\frac{47}{100}$ as a decimal.

  A 0.047

  B 0.47

  C 4.70

  D 47.00

14. Write 0.032 as a percent.

  F 0.032%

  G 0.32%

  H 3.20%

  J 32.0%

15. Write $\frac{3}{4}$ as a percent.

  A 0.75%

  B 7.5%

  C 50%

  D 75%

16. What is the mean of the data set {10, 2, 6, 16, 2, 1, 12}?

  F 2

  G 6

  H 7

  J 16

17. What is the median of the data set {10, 2, 6, 16, 2, 1, 12}?

  A 2

  B 6

  C 7

  D 16

18. What is the mode of the data set {10, 2, 6, 16, 2, 1, 12}?

  F 2

  G 6

  H 7

  J 16

19. Order the numbers $-\frac{3}{2}$, 1.74, 1.$\overline{7}$, 0, $-\sqrt{3}$ from least to greatest.

  A $-\sqrt{3}$, $-\frac{3}{2}$, 0, 1.74, 1.$\overline{7}$

  B $-\sqrt{3}$, $-\frac{3}{2}$, 0, 1.$\overline{7}$, 1.74

  C $-\frac{3}{2}$, $-\sqrt{3}$, 1.74, 1.$\overline{7}$, 0

  D $-\frac{3}{2}$, $-\sqrt{3}$, 1.$\overline{7}$, 1.74, 0

20. Use interval notation to represent $-10 < x \le 0$.

  F $\{x|-10 < x \le 0\}$

  G $[-10, 0)$

  H $(-10, 0)$

  J $(-10, 0]$

21. Identify the property demonstrated by $3 \cdot (6 + 7) = (6 + 7) \cdot 3$.

  A Associative Property

  B Commutative Property

  C Distributive Property

  D Additive Identity Property

22. Use mental math to find the 15% tip for a $60.80 restaurant bill.

  F $0.91

  G $3.04

  H $6.08

  J $9.12

23. Estimate $\sqrt{28}$ to the nearest tenth.

  A 4.7

  B 5.1

  C 5.3

  D 6.3

Holt Algebra 2

Name _____ Date _____ Class _____

24. Simplify $\dfrac{4\sqrt{7}}{\sqrt{3}}$.

F $\dfrac{28}{\sqrt{21}}$

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

H $\dfrac{12\sqrt{7}}{3}$

J $4\sqrt{21}$

25. Simplify $4\sqrt{5} - \sqrt{45}$.

A 1

B $\sqrt{5}$

C $4\sqrt{5} - 3\sqrt{5}$

D $7\sqrt{5}$

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

F -42

G -12

H 40

J 42

27. Simplify $x(7x + 2y) + 3xy - 4x^2$.

A $3x^2 + 5xy$

B $3x^2 + 9xy$

C $11x^2 - 5xy$

D $11x^2 + 5xy$

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

F -8

G $-\dfrac{1}{8}$

H $\dfrac{1}{8}$

J 8

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

A $\dfrac{6y^{21}}{x^3}$

B $\dfrac{8y^9}{x^3}$

C $\dfrac{8y^{21}}{x^3}$

D $8x^3y^{21}$

30. Evaluate the expression $\dfrac{3.0 \times 10^{-11}}{6.0 \times 10^4}$ and write the answer using scientific notation.

F 0.05×10^{-14}

G 0.5×10^{-15}

H 5.0×10^{-16}

J 5.0×10^{-14}

31. What is the domain of the relation shown in the table?

Books Read Last Week					
Student	Sarah	Jessie	Nicole	Andrea	Toby
Number	5	4	5	3	0

A $\{0, 3, 4, 5\}$

B $\{0, 1, 2, 3, 4, 5\}$

C $\{y \mid 0 \le y \le 5 \text{ and } y \in \mathbb{N}\}$

D $\{$Sarah, Jessie, Nicole, Andrea, Toby$\}$

32. Which of the following relations is **not** a function?

F From student to shoe size

G From student to colors of shoes owned

H From student to number of shoes owned

**J** From student to favorite type of shoe

Holt Algebra 2

CHAPTER 1

Cumulative Test

continued

33. Evaluate $f(x) = 3 - 4x$ for $f(-6)$.

A -21

B -6

C 21

D 27

34. Which function D represents the number of days there are in w weeks?

F $D(w) = \frac{w}{7}$

G $D(w) = 7$

H $D(w) = 7 + w$

J $D(w) = 7 \cdot w$

35. The points $\{(-8, 12), (0, -4), (16, -16)\}$ are on the graph of function f. What are the coordinates of these three points after a horizontal compression by a factor of $\frac{1}{4}$?

A $\{(-32, 12), (0, -4), (64, -16)\}$

B $\{(-8, 3), (0, -1), (16, -4)\}$

C $\{(-2, 3), (0, -1), (4, -4)\}$

D $\{(-2, 12), (0, -4), (4, -16)\}$

36. Which parent function best approximates this data set?

x	0	1	4	9	16
y	0	3	6	9	12

F $f(x) = c$

G $f(x) = \sqrt{x}$

H $f(x) = x$

J $f(x) = x^2$

37. Data showing the relationship between Celsius and Fahrenheit temperatures is represented in the graph. Use the parent function that best approximates the data to find the Fahrenheit temperature when the Celsius temperature is 60°C.
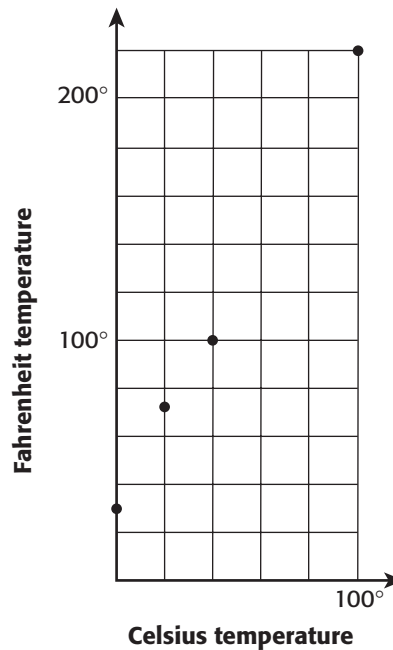
A About 100°F

B About 120°F

C About 140°F

D About 180°F

38. Which transformation of the parent function $f(x) = x^3$ does the function $g(x) = x^3 - 7$ represent?

F a horizontal translation left 7 units

G a horizontal translation right 7 units

H a vertical translation down 7 units

J a vertical translation up 7 units

Holt Algebra 2

Answer Key continued

8. $-\dfrac{75}{12}$

9. $10x$

10. $\dfrac{1}{12}$

11. $\dfrac{27y^6}{x^{24}}$

12. 1.6×10^{-4}

13. D: $\{x \mid x \neq 0\}$ R: $\{0 < f(x) < \infty\}$

14. $a \neq 2,\ a \neq 4,\ a \neq 1$

15. $f(0) = 3,\ f\!\left(\dfrac{1}{2}\right) = 0,\ f(h + 4) = -6h - 21$

16. $T(h) = 35 + 25h,\ T(3) = 110$, total miles east after 3 hours

17. graph should have x-coordinates doubled and negative of y-coordinates

18. $(6, 1)$ and $(-12, 5)$

19. quadratic, translated left 2 units and reflected across x-axis

20. about hour 7.3

Performance Assessment

1. $f(x) = 6x^2$

2. Domain $x > 0$, $x \in \square$, Range $y > 0$, $y \in \square$.

3. The parent function is the quadratic function.

4. It represents the total area of the squares if the side of one of the smaller squares measures 200 ft.

5. $f(200) = 2.4 \times 10^5$

Cumulative Test

1. C

2. G

3. A

4. H

5. B

6. J

7. C

8. F

9. D

10. G

11. D

12. F

13. B

14. H

15. D

16. H

17. B

18. F

19. A

20. J

21. B

22. J

23. C

24. H

25. B

26. H

27. A

28. G

29. C

30. H

31. A

32. G

33. D

34. J

35. D

36. G

37. C

38. H

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