Beginning-of-Year Test
Multiple Choice

Name _____

6-1 7-2

Circle the best answer.

1. What is the standard form of $(7 \times 10^2) + (8 \times 10^0) + (3 \times 10^{-2})$?

A. 708.03 **B.** 708.3

C. 780.03 **D.** 780.3

2. Which numbers are in order from greatest to least?

F. 0.2422, 0.24, 0.242, 0.0722

G. 0.0722, 0.24, 0.242, 0.2422

H. 0.2422, 0.242, 0.24, 0.0722

J. 0.0722, 0.2422, 0.242, 0.24

3. What is the value of $13.9 - c + d$ when $c = 0.65$ and $d = 3.07$?

A. 17.62

B. 16.32

C. 11.48

D. 10.18

4. Multiply.

$0.72 \bullet 0.84$

F. 0.5048 **G.** 0.6048

H. 6.048 **J.** 60.48

5. What is the scientific notation for 2,060,000?

A. 26×10^6

B. 2.6×10^6

C. 2.6×10^5

D. 2.06×10^6

6. Divide.

$240{,}376 \div 4$

F. 694 **G.** 6,094

H. 60,094 **J.** not given

7. Divide.

$3.5028 \div 0.07$

A. 50.3

B. 50.04

C. 50.03

D. 5.004

8. What is the value of $36 \div c \bullet d$ when $c = 0.4$ and $d = 200$?

F. 0.18

G. 288

H. 4,500

J. 18,000

9. Simplify.

$5 + (50 - 2) \div 8 + (2.7 + 4)$

A. 13.325 **B.** 13.825

C. 17.7 **D.** not given

10. Ed buys packages of 8 hamburger rolls. He buys p packages. Which expression represents how many rolls he buys?

F. $8p$

G. $8 + p$

H. $8 \div p$

J. $8 - p$

11. Solve.

$200 = 80n$

A. $n = 2.5$

B. $n = 120$

C. $n = 280$

D. $n = 16{,}000$

12. Which numbers are in order from least to greatest?

F. 12, 8, −16, −29

G. −29, −16, 8, 12

H. 8, 12, −16, −29

J. 8, 12, −29, −16

13. Multiply.

$6(-9)(-11)$

A. −594

B. −65

C. 65

D. 594

14. Divide.

$-24 \div (-3)$

F. −8 **G.** 3

H. 8 **J.** 72

15. What is the prime factorization of 63?

A. $21 \cdot 3$

B. $9 \cdot 7$

C. $3^3 \cdot 7$

D. $3^2 \cdot 7$

16. What is the greatest common factor (GCF) of 8, 24, and 32?

F. 2

G. 4

H. 8

J. 16

17. Which numbers are in order from least to greatest?

A. $\frac{1}{6}, 0.25, \frac{3}{8}, 0.4$

B. $0.4, \frac{3}{8}, 0.25, \frac{1}{6}$

C. $\frac{1}{6}, \frac{3}{8}, 0.25, 0.4$

D. $0.25, \frac{1}{6}, 0.4, \frac{3}{8}$

18. Solve.

$\left(\frac{5}{12} + \frac{2}{12}\right) + \frac{4}{12} = \frac{5}{12} + \left(z + \frac{4}{12}\right)$

F. $z = 1\frac{2}{3}$

G. $z = \frac{5}{12}$

H. $z = \frac{4}{12}$

J. $z = \frac{1}{6}$

19. Add.

$\frac{11}{20} + \frac{3}{5} + \frac{1}{2}$

A. $1\frac{7}{10}$ **B.** $1\frac{13}{20}$

C. $1\frac{9}{20}$ **D.** $1\frac{2}{5}$

20. Subtract.

$11\frac{5}{7} - 9\frac{6}{7}$

F. $2\frac{1}{7}$

G. $1\frac{6}{7}$

H. $1\frac{1}{7}$

J. $2\frac{6}{7}$

21. Multiply.

$\frac{4}{5} \bullet 9 \bullet 25$

A. $7\frac{1}{5}$

B. 144

C. 180

D. 4500

22. Divide.

$3\frac{1}{2} \div 1\frac{1}{3}$

F. $4\frac{2}{3}$ **G.** $2\frac{5}{8}$

H. $\frac{8}{21}$ **J.** $\frac{3}{14}$

23. The daily low temperatures for the week were 28°F, 23°F, 27°F, 25°F, 15°F, 29°F, and 28°F. Which temperature is the outlier? Which temperature is the mean?

A. 15°F; 25°F

B. 15°F; 27°F

C. 15°F; 28°F

D. 29°F; 28°F

24. What type of angle is a 75° angle?

F. right

G. obtuse

H. acute

J. straight

25. Solve.

$9 : 4 = n : 72$

A. $n = 18$

B. $n = 162$

C. $n = 182$

D. $n = 648$

26. What percent is equal to $\frac{3}{5}$?

F. 0.6%

G. 6%

H. 60%

J. 0.006%

27. If 50% of a number is 8, what is 150% of the number?

A. 4 **B.** 12

C. 24 **D.** 32

28. How many inches are in $6\frac{1}{4}$ feet?

F. 12 in.

G. $36\frac{1}{4}$ in.

H. 75 in.

J. 76 in.

29. How many fluid ounces are in $6\frac{1}{4}$ cups?

A. 50 fl oz

B. 99 fl oz

C. 100 fl oz

D. 150 fl oz

30. How many grams is 625 milligrams?

F. 625,000 g

G. 6250 g

H. 6.25 g

J. 0.625 g

31. The measures of four interior angles of a pentagon are 112°, 102°, 118°, and 107°. What is the measure of the fifth interior angle?

A. 720° **B.** 540°

C. 439° **D.** 101°

32. The sides of a triangular sail are 10 feet, 24 feet, and 26 feet. If the shortest side of a geometrically similar sail measures 8 feet, what is the measure of its longest side?

F. 19.2 ft **G.** 20.8 ft

H. 30 ft **J.** 32.5 ft

33. Ann sold $923 worth of clothing yesterday. Her rate of commission is 5%. What was her total commission yesterday?

A. $4,615.00 **B.** $461.50

C. $45.15 **D.** not given

34. Lou bought a T-shirt for $40 at a 25% discount. Sales tax is 8%. How much did Lou pay for the T-shirt, including tax?

F. $43.20 **G.** $35.20

H. $32.40 **J.** $10.80

35. The distance to Ty's locker from his sister's locker is no more than 8 meters. Ty knows that 1 meter equals approximately 3.3 feet. Ty's locker is no more than how many yards from his sister's locker?

A. 8.8 yd **B.** 13.2 yd

C. 26.4 yd **D.** not given

36. A pyramid has a square base that measures 3 feet on each side. The height of the pyramid is 19 inches. What is the volume?

F. 24,624 $in.^3$ **G.** 8208 $in.^3$

H. 8208 $in.^2$ **J.** 171 $in.^3$

37. Fifteen more than (-4) times a certain number is equal to -1. What is the number?

A. -4 **B.** -3

C. 3 **D.** 4

38. There are 250 students in school. 130 are girls. What percent are boys?

F. 48% **G.** 52%

H. 130% **J.** 250%

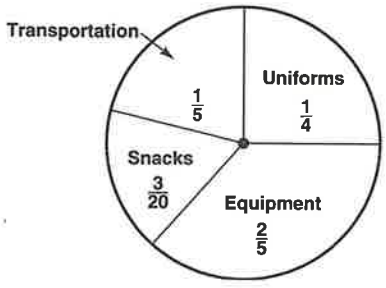
39. Andrew, Marco, and Kenjo are going to the movies. They want to sit together in the same row. How many different seating orders are possible?

A. 3 **B.** 6

C. 7 **D.** 12

40. A school team's budget is $900. The circle graph shows how the money is spent. How much more money is spent for uniforms than for transportation?

School Team's Annual Budget



F. $45 **G.** $90

H. $100 **J.** $225

Name _____

Write each in standard form.

1. $(5 \times 10^4) + (6 \times 10^1) + (7 \times 10^{-2})$

_____

2. $(2 \times 10^5) + (3 \times 10^3) + (3 \times 10^0)$

_____

Order from greatest to least.

3. 7.21, 7, 7.2, 7.05

_____

4. 0.54, 0.5469, 0.5462, 0.559

_____

Evaluate each equation when $c = 0.5$ and $d = 30$.

5. $9 + c + d$

_____

6. $10d \div c$

_____

7. $d \div c \bullet 300$

_____

Multiply.

8. (6.2)(9.4)

_____

9. $-25(14)$

_____

10. $-16(-11)$

_____

Divide.

11. 30,139 ÷ 93

_____

12. 8.93 ÷ 4.7

_____

13. $-80 \div 5$

_____

Write in scientific notation.

14. 35,500,000

_____

15. 248,000,000

_____

16. 8,050,000

_____

Simplify.

17. $12 - 3 \bullet 2 + 2^3$

_____

18. $10 \bullet 3 + (48 \div 6)^2 \bullet 0.4$

_____

Write and solve an equation for each problem.

19. Juan buys 4 DVDs at $15 each. How much does Juan pay in all?

_____

20. A ribbon is 165 cm long. It is cut into 15 equal pieces. How long is each piece?

_____

Find the prime factorization in exponential form.

21. 36

_____

22. 189

_____

23. 60

_____

Find the greatest common factor.

24. 80 and 100

_____

25. 48 and 84

_____

26. 14, 49, and 105

_____

Write in order from least to greatest.

27. $-2\frac{3}{4}, 4.5, -1\frac{1}{3}$

_____

28. $\frac{3}{2}, -3\frac{1}{2}, 4$

_____

29. $-\frac{3}{5}, -1.2, -6\frac{1}{2}$

_____

Find the value of the variable. Use the properties of addition.

30. $z + \frac{5}{7} = \frac{5}{7} + \frac{1}{7}$

_____

31. $\frac{3}{16} + \left(\frac{5}{16} + 0\right) = \frac{3}{16} + n$

_____

Add or subtract.

32. $\frac{1}{12} + \frac{2}{3} + \frac{1}{4}$

_____

33. $10\frac{1}{4} - 5\frac{2}{3}$

_____

34. $8\frac{1}{6} - 3\frac{3}{4} + 2\frac{1}{2}$

_____

Multiply or divide.

35. $\frac{7}{9} \cdot 27 \cdot 4$

_____

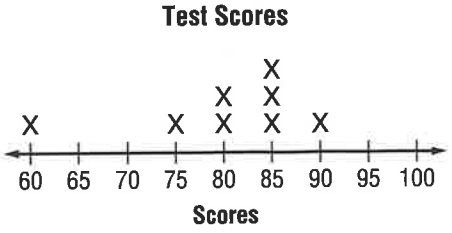
36. $1\frac{1}{3} \div 2\frac{2}{5}$

_____

37. $3\frac{1}{4} \div 1\frac{1}{2}$

_____

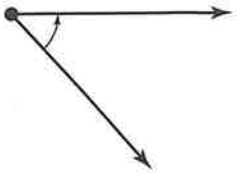
Use the line plot to answer questions 38 and 39.



38. What score is an outlier? _____

39. What is the mean? _____

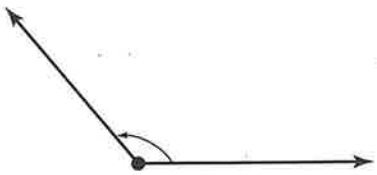
Classify each angle as right, acute, obtuse, or straight.

40. 

_____

41. 

_____

42. 

_____

Find the value of *n*.

43. $\frac{12}{4} = \frac{18}{n}$

_____

44. $8 : 3 = n : 12$

_____

45. $17 : 3 = n : 1.5$

_____

Write each fraction as a percent and a decimal.

46. $\frac{6}{10}$

_____

47. $\frac{9}{20}$

_____

48. $\frac{5}{8}$

_____

Find the percent of each number.

49. 30% of 30

_____

50. 63% of 900

_____

51. 37.5% of 112

_____

Compare. Write <, =, or >.

52. 4.8 cm _____ 0.48 mm

53. 6 gal _____ 28 qt

54. 76 fl oz _____ $9\frac{1}{2}$ c

Solve. Show your work.

55. Seven of the interior angles of an octagon each have a measure of 130°. What is the measure of the eighth interior angle?

56. A 16 foot-high vertical pole casts a shadow 4 feet long. At the same time, a second vertical pole casts a shadow 12 feet long. What is the height of the second pole?

57. Jamal sold $2400 worth of shoes last week. He has a regular salary of $350 per week. He also gets a 4% commission on what he sells. How much did he make last week?

58. A $375 television is on sale for 15% off. What is the total cost including 8% tax?

59. The string on the tail of a kite is about 127 cm long. Sue knows that 1 in. = 2.54 cm. About how many feet long is the string?

60. What is the volume of a square pyramid with a base edge of 100 dm and a height of 18 m?

61. A book is on sale for $15. It is four dollars less than half the full price of the book. What is the full price?

62. There are 80 students in the park. Twelve are playing tennis. What percent of the students are not playing tennis?

63. Three out of ten finalists will win a spelling bee. Prizes will be given for first, second, and third place. How many different ways can the winners be selected? Explain.

64. Don collected 48 sports cards. He draws a circle graph to represent his cards. One eighth of the cards are hockey, $\frac{1}{8}$ are soccer, $\frac{1}{4}$ are basketball. The rest are baseball cards. What percent of the cards are baseball cards?