

# Expressions, Equations, and Functions

Read each question. Then mark your answer on the sheet.

1. In a group of children, there are 6 boys for every 7 girls. How many boys are there in the group if there are 49 girls?

|       |   |    |    |  |  |  |  |
|-------|---|----|----|--|--|--|--|
| Boys  | 6 |    |    |  |  |  |  |
| Girls | 7 | 14 | 21 |  |  |  |  |

- A** 30 boys    **C** 48 boys  
**B** 42 boys    **D** 54 boys

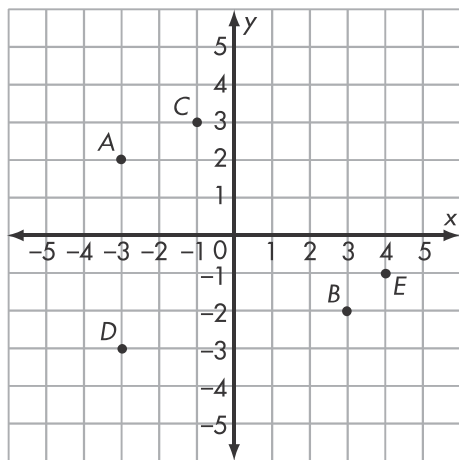
2. The population of the United States exceeds 314,759,600. What is the value of the 4 in this number?

- A** Four thousand  
**B** Forty thousand  
**C** Four hundred thousand  
**D** Four million

3. Which list shows these numbers ordered from greatest to least?

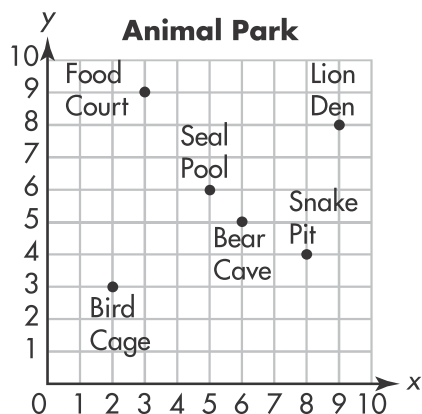
- A** 7,890,900; 7,809,900;  
5,475,700; 4,979,450  
**B** 7,809,900; 7,890,900;  
5,475,700; 4,979,450  
**C** 4,979,450; 5,475,700;  
7,890,900; 7,809,900  
**D** 4,979,450; 5,475,700;  
7,809,900; 7,890,900

4. Which ordered pair names point A?



- A**  $(-1, 3)$   
**B**  $(-3, 2)$   
**C**  $(3, -2)$   
**D**  $(2, -3)$

5. Which ordered pair shows the location of the food court?



- A**  $(9, 3)$   
**B**  $(8, 9)$   
**C**  $(3, 9)$   
**D**  $(3, 8)$

**Expressions, Equations, and Functions**

(continued)

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- 6.**
- What is the rule for the table?

| $n$ | 0 | 1 | 2 | 3 | 4 |
|-----|---|---|---|---|---|
|     | 3 | 4 | 5 | 6 | 7 |

- A**  $n - 3$                       **C**  $2n + 3$   
**B**  $n + 3$                       **D**  $3n$

- 7.**
- Which equation describes the function table?

| $m$ | $n$ |
|-----|-----|
| -1  | -5  |
| 1   | -1  |
| 3   | 3   |
| 5   | 7   |

- A**  $n = 3m - 4$   
**B**  $n = 2m - 3$   
**C**  $n = m + 4$   
**D**  $m = n - 4$

- 8.**
- Which expressions are equivalent to
- $(7 \times 4) + (7 \times 5)$
- ? Choose all that apply.

- A**  $28 + 35$   
**B**  $4(7 + 5)$   
**C**  $(7 \times 5) + (7 \times 4)$   
**D**  $7(4 + 5)$

- 9.**
- Evaluate
- $(18 \div 3) \div (9 - 7)$
- .

- A** 1                              **C** 8  
**B** 3                              **D** 12

- 10.**
- One gallon of milk contains 128 ounces. Which expression shows the number of ounces in
- $g$
- gallons?

- A**  $128 + g$   
**B**  $128 \div g$   
**C**  $128g$   
**D**  $g - 128$

- 11.**
- Which expression is equivalent to
- $2(9 + 7)$
- ? Choose all that apply.

- A**  $18 + 14$   
**B** 32  
**C**  $18 + 7$   
**D**  $2 \times 16$

- 12.**
- Which expression is three times as large as
- $(512 + 321)$
- ? Choose all that apply.

- A** 833  
**B**  $3(512 + 321)$   
**C**  $(512 + 321) \times 3$   
**D**  $(3 \times 512) + (3 \times 321)$

Name \_\_\_\_\_

## Numbers and Operations

Read each question. Then mark your answer on the sheet.

- 13.** The library checked out 3,559 books in July and 3,328 books in August. How many books did the library check out during those two months?

**A** 6,888 books  
**B** 6,887 books  
**C** 6,877 books  
**D** 231 books

- 14.** Thursday night 36,219 people bought tickets to the baseball game. Friday night 63,516 people bought tickets. How many more tickets were sold on Friday night?

**A** 99,735 tickets  
**B** 37,307 tickets  
**C** 37,207 tickets  
**D** 27,297 tickets

- 15.** Use mental math to find the quotient.

$$2,700 \div 30 =$$

**A** 9  
**B** 90  
**C** 900  
**D** 9,000

- 16.** Each class in the school collected \$1,750 in donations for the new computer lab. There are 23 classes in the school. How much money did the school collect in donations?

**A** \$8,750  
**B** \$30,250  
**C** \$40,250  
**D** \$41,250

- 17.** Which expressions are equivalent to  $1,200 \div 50$ ? Choose all that apply.

**A**  $120 \div 5$   
**B** 24  
**C** 60,000  
**D**  $12,000 \div 500$

- 18.** Mandy has 2,280 stamps. She wants to share them equally among 10 friends. How many stamps can Mandy give each friend?

**A** 22 stamps  
**B** 208 stamps  
**C** 228 stamps  
**D** 280 stamps

**Numbers and Operations**

(continued)

Read each question. Then mark your answer on the sheet.

19. Which is equivalent to  $\frac{2}{3} + \frac{1}{4} = ?$   
Choose all that apply.

**A**  $\frac{3}{7}$   
**B**  $\frac{2 \times 4}{3 \times 4} + \frac{1 \times 3}{4 \times 3}$   
**C**  $\frac{8}{12} + \frac{3}{12}$   
**D**  $\frac{11}{12}$

20. Which is equivalent to  $\frac{5}{6} - \frac{2}{3} = ?$   
Choose all that apply.

**A**  $\frac{3}{3}$  or 1  
**B**  $\frac{5 \times 3}{6 \times 3} - \frac{2 \times 6}{3 \times 6}$   
**C**  $\frac{15}{18} - \frac{12}{18}$   
**D**  $\frac{1}{6}$

21. Juan brought  $\frac{3}{8}$  pound of peanuts and Ted brought  $\frac{3}{4}$  pound of peanuts to the school picnic. How many pounds of nuts did they bring in all?

**A**  $\frac{3}{8}$  pound  
**B**  $1\frac{1}{8}$  pounds  
**C**  $1\frac{3}{8}$  pounds  
**D**  $1\frac{1}{2}$  pounds

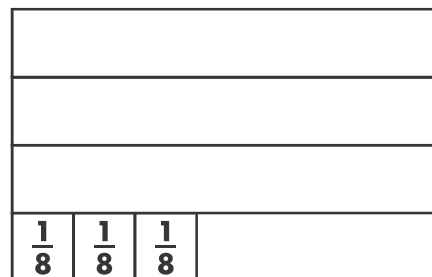
22. Barack ran  $1\frac{1}{4}$  miles to the lake. Then he ran  $3\frac{2}{3}$  miles around the lake. How many miles did he run?

**A**  $4\frac{2}{7}$  miles  
**B**  $4\frac{5}{12}$  miles  
**C**  $4\frac{11}{12}$  miles  
**D**  $5\frac{1}{12}$  miles

23. Which is the best estimate for  $4\frac{3}{5} + 3\frac{1}{3}$ ?

**A** About 6      **C** About 8  
**B** About 7      **D** About 9

24. Mrs. Myers bought  $3\frac{3}{8}$  yards of ribbon. She used  $2\frac{7}{8}$  yards of ribbon on her daughter's dress. Use the model to find how much ribbon Mrs. Myers has left.



**A**  $\frac{3}{8}$  yard      **C**  $1\frac{1}{2}$  yards  
**B**  $\frac{1}{2}$  yard      **D**  $1\frac{3}{8}$  yards

**Numbers and Operations**

(continued)

Read each question. Then mark your answer on the sheet.

25. Oscar ran  $\frac{5}{8}$  mile. Tony ran  $\frac{5}{6}$  mile.  
How much farther did Tony run?

**A**  $\frac{5}{24}$  mile  
**B**  $\frac{1}{3}$  mile  
**C**  $\frac{7}{8}$  mile  
**D**  $1\frac{11}{24}$  miles

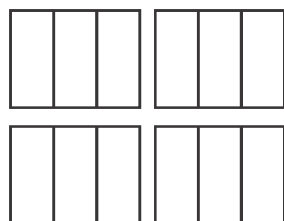
26.  $\frac{1}{3} \times \frac{4}{9} =$

**A**  $\frac{2}{3}$   
**B**  $\frac{2}{9}$   
**C**  $\frac{5}{27}$   
**D**  $\frac{4}{27}$

27.  $\frac{3}{4} \times 12 =$

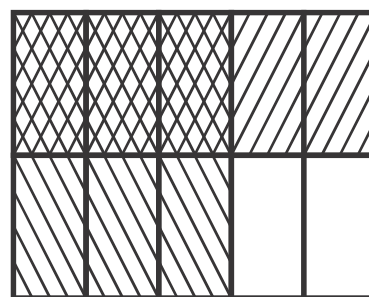
**A**  $\frac{1}{16}$       **C** 8  
**B**  $\frac{1}{9}$       **D** 9

28. Use the picture to find  $\frac{2}{3} \times 4$ .



**A**  $1\frac{2}{3}$       **C** 6  
**B**  $2\frac{2}{3}$       **D** 12

29. What product does the diagram show?

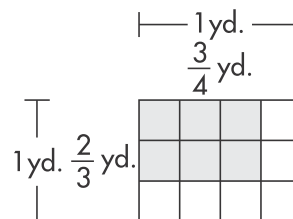


**A**  $\frac{1}{2} \times \frac{3}{5} = \frac{3}{10}$       **C**  $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$   
**B**  $\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$       **D**  $\frac{1}{3} \times \frac{3}{5} = \frac{1}{5}$

30. Which is equivalent to  $\frac{2}{3} \times \frac{4}{5} = ?$   
Choose all that apply.

**A**  $\frac{8}{8}$  or 1      **C**  $\frac{2 \times 4}{3 + 5}$   
**B**  $\frac{2 \times 4}{3 \times 5}$       **D**  $\frac{8}{15}$

31. Beth made a rectangular sign that is  $\frac{3}{4}$  yard by  $\frac{2}{3}$  yard. What is the area of the sign? Choose all that apply.



**A**  $\frac{1}{2}$  square yard  
**B**  $\frac{6}{12}$  square yard  
**C** 6 square yards  
**D** 12 square yards

**Numbers and Operations**

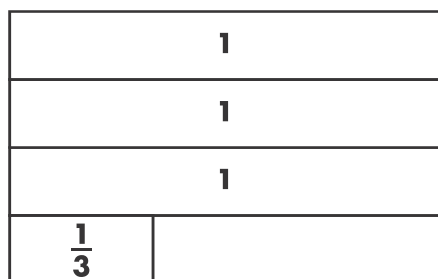
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- 32.** Kayla's rectangular garden is  $2\frac{1}{2}$  yards by  $5\frac{1}{2}$  yards. What is the area of her garden? Choose all that apply.

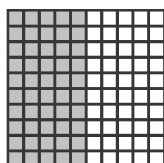
- A** 8 square yards  
**B**  $\left(2\frac{1}{2} \times 5\frac{1}{2}\right)$  square yards  
**C**  $12\frac{3}{4}$  square yards  
**D**  $13\frac{3}{4}$  square yards

- 33.** Jesse ran  $\frac{3}{4}$  of a  $3\frac{1}{3}$ -mile trail. Use the model to find how far he ran.



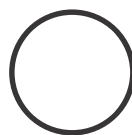
- A** 2 miles      **C** 3 miles  
**B**  $2\frac{1}{2}$  miles      **D**  $3\frac{1}{3}$  miles

- 34.** Use the picture to find the quotient:  $\frac{1}{2} \div 10$ .



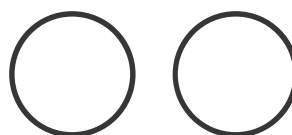
- A**  $\frac{1}{20}$       **C**  $\frac{1}{5}$   
**B**  $\frac{1}{10}$       **D** 5

- 35.** Mrs. Smith has  $\frac{1}{3}$  of a blueberry pie left to share equally among her 4 children. What fraction of the pie will each child get? Use the circle to help you solve the problem.



- A**  $\frac{1}{12}$   
**B**  $\frac{1}{6}$   
**C**  $\frac{1}{4}$   
**D**  $\frac{1}{3}$

- 36.** Joy is making sushi rolls. She needs  $\frac{1}{4}$  cup of rice for each sushi roll. How many sushi rolls can she make with 2 cups of rice? Use the circles to help you solve the problem.



- A** 2 sushi rolls  
**B** 4 sushi rolls  
**C** 6 sushi rolls  
**D** 8 sushi rolls