Grade 5 Math Authentic OAT Questions

Number, Number Sense and Operations

1. Peggy sold a total of 6,198 vanilla and chocolate ice cream cones during the carnival. About half the cones she sold were vanilla.

   Which estimate is reasonable for the number of chocolate ice cream cones sold?

   A. 2,500

   B. 3,000

   C. 3,500

   D. 6,000

2. Maria found the same pair of shoes on sale at three different stores. All the stores have the same original price. The first store has the shoes on sale for $\frac{1}{3}$ off. The second store has them on sale for 20% off. The third store has them on sale for one-fourth off.

   On a separate piece of paper, determine which store has the best sale for the shoes. Explain your answer, using pictures, numbers or words. (2 points)

3. The diagram shows how far it is from Anna's home to her school, from her school to the library, and from the library to her home.

Each school day, Anna rides her bike from her home to her school. After school, she rides to the library and then home. On Saturday, Anna rides her bike from home to the library and back home. She does not ride her bike on Sunday. Anna's mother says that her daughter rides about 30 miles every week between her home, the school and the library.

On a separate piece of paper, use estimation to determine whether Anna's mother has made a reasonable estimate. Show or explain your work. (4 points)

4. Simplify: $9 \div 3 + 6 \times 5$

A. 5

B. 6

C. 33

D. 45

5. There are 2,382 paintings in an art museum. The museum has 124 rooms.

Which is a reasonable estimate for the number of paintings in each room?

A. 10

B. 20

C. 30

D. 200

6. John saw 6 cats and 9 dogs in the veterinarian's waiting room.

What is the ratio of cats to dogs?

A. 6:9

B. 6:15

C. 9:6

D. 9:15

7. Russell bought $2\frac{1}{8}$ pounds of turkey and $3\frac{3}{4}$ pounds of roast beef to make sandwiches.

   Which estimate is reasonable for the amount of meat he bought?

   A. 4 pounds

   B. 5 pounds

   C. 6 pounds

   D. 7 pounds

8. Marco is simplifying fractions.

   Which fraction should he use to simplify $\frac{9}{12}$ to lowest terms?

   A. $\frac{2}{2}$

   B. $\frac{3}{3}$

   C. $\frac{9}{9}$

   D. $\frac{12}{12}$

9. Shelly's photo album has 6 sections. Each section has 16 pages. Each page has 5 pictures. To find the total number of pictures in the album, Shelly needs to multiply $6 \times 16 \times 5$.

   Which other expression represents the total number of pictures in the album?

   A. $(6 \times 16) + (6 \times 5)$

   B. $(6 + 16) + 5$

   C. $(6 + 5) + (16 + 5)$

   D. $6 \times 5 \times 16$

10. Simplify: $5 + 2 \times 3 - 1$

A. 0

B. 10

C. 14

D. 20

11. Pam is using a mix to make both pancakes and waffles. The ingredients for the two recipes are shown.

Pancakes	Waffles
$2\frac{1}{2}$ cups of mix	$2\frac{3}{4}$ cups of mix
$1\frac{1}{4}$ cups of milk	$1\frac{1}{2}$ cups of milk
1 tbs of oil	2 tbs of oil
2 eggs	2 eggs

On a separate piece of paper, find the total number of cups of mix that Pam will need to use. Use picture, numbers or words to justify your answer.

Pam has 3 cups of milk. Explain whether or not she has enough milk to make both recipes. Use pictures, numbers or words to justify your answer. (4 points)

12. Wes recorded temperatures for four days.

Friday	Saturday	Sunday	Monday
−15°F	−22°F	−9°F	−13°F

Which list shows these temperatures in order from coldest to warmest?

A. −15°F, −22°F, −9°F, −13°F

B. −9°F, −13°F, −15°F, −22°F

C. −13°F, −9°F, −22°F, −15°F

D. −22°F, −15°F, −13°F, −9°F

13. Which list has three equivalent numbers?

A. $\frac{1}{4}$, 0.4, 40%

B. $\frac{1}{2}$, 0.25, 25%

C. $\frac{3}{5}$, 0.6, 60%

D. $\frac{6}{8}$, 0.68, 68%

14. Colleen ran a race in 27.28 seconds.

What is her time rounded to the nearest tenth of a second?

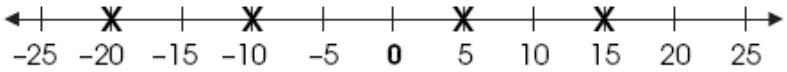
A. 27.0 seconds

B. 27.2 seconds

C. 27.3 seconds

D. 28.0 seconds

15. Four numbers are marked with an X on this number line.



Which marked number is the least?

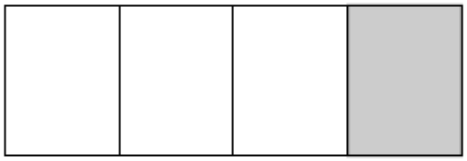
A. −20

B. −10

C. 5

D. 15

16. Part of this rectangle is shaded.



Which number represents the shaded part of the rectangle?

A. 25%

B. 0.3

C. $\frac{1}{3}$

D. 75%

17. Which fraction is equivalent to 40%?

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

B. $\frac{2}{5}$

C. $\frac{3}{5}$

D. $\frac{4}{5}$

18. A class needs 64 brownies for a bake sale. Mike brings 28 brownies.

On a separate piece of paper, write two number sentences using different operations to find the number of brownies the class still needs for the bake sale. (2 points)