

# Epsilon

Fractions





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**Tests** 



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### **Epsilon Tests: Fractions**

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Build the problem and then write the correct solution.

- 1. Step 1. Select 12 blocks.
  - Step 2. Divide into 2 equal parts.
  - Step 3. Count 1 of them.

- 2. Step 1. Select 16 blocks.
  - Step 2. Divide into 4 equal parts.
  - Step 3. Count 3 of them.

Read the problem, build it, and write the answer in the blank.

- One third of fifteen is \_\_\_\_\_.
- 4. Two fifths of twenty is \_\_\_\_\_.

5. 
$$\frac{1}{8}$$
 of 16 = \_\_\_\_\_

6. 
$$\frac{3}{4}$$
 of 8 = \_\_\_\_\_

7. 
$$\frac{1}{2}$$
 of 10 = \_\_\_\_\_

8. 
$$\frac{3}{6}$$
 of 36 = \_\_\_\_\_

9. 
$$\frac{2}{7}$$
 of 49 = \_\_\_\_\_

10. 
$$\frac{4}{5}$$
 of 40 = \_\_\_\_\_

Find the perimeter of each rectangle.





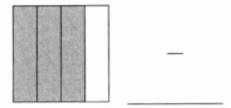
12.		12
	24'	



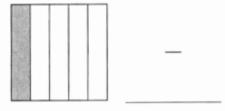
- 14. One sixth of the people in the room have blue eyes. If there are 18 people in the room, how many have blue eyes?
- 15. Kimberly bought a book that cost \$14.58 and a box of paints for \$6.75. How much money did she spend?
- 16. Kimberly had \$25 before she went shopping (#15). How much money did she have after buying her book and paints?
- 17. Allison went on a two-week vacation. If it rained  $\frac{2}{7}$  of the days she was on vacation, how many days did it rain?
- 18. Raleigh built a yard for his dog. The yard was a rectangle that measured 12 feet by 15 feet. How many feet of fence did Raleigh need to buy?

Write the correct numerator and denominator in both symbols and words.

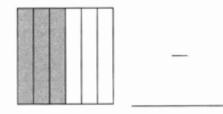
1.



2.

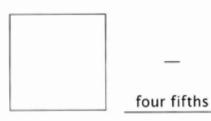


3.



Build the fraction and then draw it in the square. Say it and write it with numerals or words.

4.



5.



one third

6.



Solve.

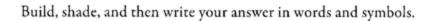
7. 
$$\frac{2}{5}$$
 of 25 = \_\_\_\_\_

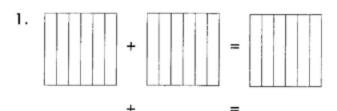
8. 
$$\frac{1}{10}$$
 of 80 = \_\_\_\_\_

9. 
$$\frac{3}{7}$$
 of 42 = \_\_\_\_\_

Find the perimeter of each square or rectangle.

- 12. Thirty-five people tried out for the play. Three fifths of them were chosen to be in the play. How many people were chosen to be in the play?
- 13. What is the perimeter of a square patio that measures 10 feet on a side?
- 14. A bench was built along  $\frac{1}{5}$  of the perimeter of the patio in #13. How long is the bench?
- 15. Chance had \$16.45 in his wallet. He lost \$5.30. How much money does Chance have left in his wallet?





one sixth plus four sixths equals \_\_\_\_\_

three fourths minus one fourth equals \_\_\_\_\_

Add or subtract.

3. 
$$\frac{3}{5} + \frac{2}{5} = ----$$

4. 
$$\frac{4}{6} + \frac{1}{6} = ---$$

5. 
$$\frac{2}{10} + \frac{6}{10} = ----$$

6. 
$$\frac{5}{8} - \frac{3}{8} = -----$$

7. 
$$\frac{8}{9} - \frac{2}{9} = \frac{}{}$$

8. 
$$\frac{2}{3} - \frac{1}{3} = ----$$

9. 
$$\frac{1}{8}$$
 of 24 = \_\_\_\_\_

10. 
$$\frac{4}{5}$$
 of 10 = \_\_\_\_\_\_

11. 
$$\frac{4}{10}$$
 of 20 = \_\_\_\_\_

Find the perimeter of each shape.

- 12. 98' 59'
- P = \_\_\_\_\_

13. 8 yd

P = \_\_\_\_\_

14. 16"

- P = \_\_\_\_\_
- 15. Ben ate  $\frac{1}{6}$  of an apple pie and  $\frac{2}{6}$  of a blueberry pie. How much pie did he eat in all?
- 16. Katherine has finished  $\frac{2}{3}$  of the job her mother gave her. What part of the job does she have left to finish?
- 17. Elizabeth plans to spend  $\frac{3}{4}$  of the year at school in New Hampshire. For how many months will she be in New Hampshire?
- 18. Ruth and Clara had a box of one dozen doughnuts. Ruth ate  $\frac{1}{6}$  of them, and Clara ate  $\frac{2}{6}$  of them. What part of the doughnuts have been eaten? How many doughnuts have been eaten?
- 19. What part of the doughnuts in #18 is left to eat? How many doughnuts is that?
- 20. Caleb received \$15.50, \$5.25, and \$10.00 as gifts. How much money did he receive in all?

4

Build the equivalent fractions. Draw lines and fill in the blanks to show what you have built. Write the fractions with numbers and with words.

Fill in the missing numbers to make equivalent fractions.

2. 
$$\frac{1}{5} = \frac{4}{15} = \frac{4}{15}$$

3. 
$$\frac{5}{6} = \frac{15}{24} = \frac{24}{24}$$

4. 
$$\frac{3}{7} = \frac{12}{28}$$

5. 
$$\frac{1}{2} = \frac{3}{8} = \frac{3}{8}$$

Add or subtract.

6. 
$$\frac{4}{5} - \frac{1}{5} = ----$$

7. 
$$\frac{5}{8} + \frac{2}{8} = ----$$

8. 
$$\frac{5}{9} - \frac{4}{9} =$$

9. 
$$\frac{3}{8}$$
 of 48 = ----

10. 
$$\frac{1}{6}$$
 of 18 = ----

11. 
$$\frac{2}{3}$$
 of 27 = ----

Multiply.

- 15. Lauren has colored one half of the pages in her coloring book. How many fourths has she colored?
- 16. If Lauren's book (#15) has 20 pages, how many pages has she colored?
- 17. If Rebekah is 13 years old, for how many months has she lived?
- 18. Each side of a square measures 11 feet. What is the perimeter of the square?
- 19. Annika read  $\frac{2}{7}$  of her book before lunch and  $\frac{3}{7}$  of it after lunch. What part of her book does she have left to read?
- 20. Annika's book has 56 pages (#19). How many pages does she have left to read?

Use the overlays to find equivalent fractions and then add or subtract.

1. 
$$\frac{3}{6} + \frac{2}{5} = ----$$

2. 
$$\frac{2}{4} + \frac{1}{3} = \frac{1}{3}$$

3. 
$$\frac{1}{5} + \frac{1}{6} =$$

4. 
$$\frac{1}{4} - \frac{1}{5} = ----$$

5. 
$$\frac{5}{6} - \frac{2}{5} = \frac{2}{5}$$

6. 
$$\frac{1}{2} - \frac{1}{4} = -----$$

Fill in the missing numbers in the numerators or denominators to make equivalent fractions.

7. 
$$\frac{1}{7} = \frac{4}{21} = \frac{4}{21}$$

8. 
$$\frac{2}{3} = \frac{8}{12}$$

9. 
$$\frac{5}{9}$$
 of 36 = ----

10. 
$$\frac{3}{10}$$
 of 90 = ----

11. 
$$\frac{4}{6}$$
 of 48 = ----

Round to the nearest ten.

Round to the nearest hundred.

- 16. There were 18 soliders on duty. One sixth of the soldiers rode in tanks, and one third of them rode in trucks. The rest of them had to walk. What part of the soldiers was able to ride in a vehicle? (Use the overlays.)
- 17. What part of the soldiers in #16 had to walk?
- 18. Zarah bought  $\frac{2}{3}$  of a pound of nuts. She used  $\frac{1}{2}$  of a pound of nuts in the cake she baked. What part of a pound of nuts is left over? (Use the overlays.)
- 19. Sharon makes and sells bread. If each loaf takes three cups of flour, how much flour will she need for 122 loaves?
- 20. The sides of a triangle are 7 feet, 24 feet, and 25 feet. What is the perimeter of the triangle?

Add or subtract using the Rule of Four.

1. 
$$\frac{1}{3} + \frac{2}{5} = ----$$

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

3. 
$$\frac{3}{7} + \frac{1}{10} = ----$$

4. 
$$\frac{1}{2} - \frac{1}{6} = ----$$

5. 
$$\frac{5}{8} - \frac{1}{3} = ----$$

6. 
$$\frac{5}{6} - \frac{3}{4} = \frac{1}{2}$$

Fill in the missing numbers in the numerators or denominators to make equivalent fractions.

7. 
$$\frac{7}{8} = \frac{28}{24} = \frac{28}{24}$$

8. 
$$\frac{1}{3} = \frac{1}{12}$$

9. 
$$\frac{1}{10}$$
 of 50 = \_\_\_\_

10. 
$$\frac{3}{4}$$
 of 16 = \_\_\_\_

11. 
$$\frac{1}{2}$$
 of 20 = \_\_\_\_

Estimate and then multiply to find the exact answer.

12. 
$$\begin{array}{c} 26 \rightarrow \\ \times 33 \end{array}$$

14. 61 
$$\rightarrow$$
  $\times$  17

- 15. Sixteen boxes of books arrived in the mail. If each box held one dozen books, how many books did I receive?
- 16. One half of Hannibal's elephants died as they struggled over the Alps. Another one fifth did not survive the march through Italy. What part of his elephants did Hannibal lose?
- 17. Mom used  $\frac{4}{9}$  of the apples to make applesauce and  $\frac{3}{6}$  of of them to make a pie. What part of the apples has been used?
- 18. Gavin saw  $\frac{3}{4}$  of a pizza on the counter. By the time he was finished eating, there was only  $\frac{1}{8}$  of a pizza left. What part of a pizza did Gavin eat?
- 19. Round 472 to the nearest hundred.
- 20. Vontoria took  $\frac{7}{10}$  of an hour to do her math today. How many minutes did she spend on math today?

