

Choose correct answer(s) from the given choices

- (1) Three friends were eating pie. Elijah ate $\frac{5}{15}$, Abigail ate $\frac{2}{3}$ and Sarah ate $\frac{2}{5}$ of a pie. In total, how

much pie did these three eat?

a. $\frac{5}{5}$

b. $\frac{7}{5}$

c. $\frac{10}{5}$

d. $\frac{9}{5}$

- (2) Add the following fractions and reduce the sum to the simplest form:

$$\frac{6}{9} + \frac{3}{6}$$

a. $\frac{14}{6}$

b. $\frac{4}{7}$

c. $\frac{7}{6}$

d. $\frac{11}{13}$

- (3) David's cookie recipe calls for $\frac{3}{8}$ of a cup of sugar. How much sugar would David use to make 3 batches of cookies?

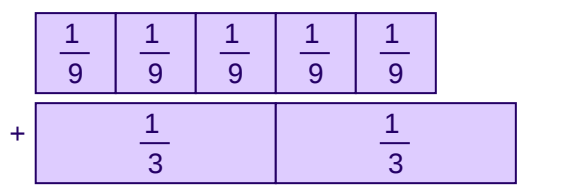
a. $\frac{1}{10}$

b. $1\frac{1}{8}$

c. $\frac{1}{8}$

d. $1\frac{1}{10}$

- (4) Add $\frac{5}{9}$ and $\frac{2}{3}$ using the given model.



a. $\frac{5}{9} + \frac{2}{3} = \frac{7}{9}$

b. $\frac{5}{9} + \frac{2}{3} = \frac{9}{9}$

c. $\frac{5}{9} + \frac{2}{3} = \frac{11}{9}$

d. $\frac{5}{9} + \frac{2}{3} = \frac{14}{9}$

- (5) There are 14 houses in a street and three-seventh of them have satellite TV. How many of these houses have satellite TV?

a. 10

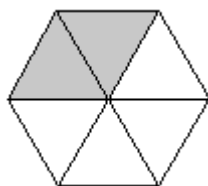
b. 5

c. 6

d. 7

Fill in the blanks

- (6) The fraction of the shaded part in the following image is $\frac{\square}{\square}$.



- (7) $\frac{3}{10} + \frac{2}{100} = \frac{\square}{\square}$

Answer the questions

- (8) Logan's cookie recipe calls for $\frac{8}{11}$ of a cup of sugar. How much sugar would Logan use to make 4 batches of cookies? (Simplify the answer)
- (9) Mason read $\frac{6}{11}$ of a book in two days. If Mason read $\frac{5}{11}$ of the book on the first day. What fraction of the book he read on the second day?
- (10) In a class there are 30 students. If five-tenth of these come to school by bus. How many students come to school by bus?



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Solutions

(1) b. $\frac{7}{5}$

Step 1

To find the total pie eaten by Elijah, Abigail and Sarah, add the pie eaten by each one of them.

Step 2

Add the fractions: $\frac{5}{15} + \frac{2}{3} + \frac{2}{5}$

Step 3

Now, to add the fractions we have to make the denominators of the fractions the same.

So, to get equivalent fractions with denominator 15, multiply $\frac{2}{3}$ by 5 and $\frac{2}{5}$ by 3.

So, $\frac{2 \times 3}{5 \times 3} = \frac{6}{15}$ and $\frac{2 \times 5}{3 \times 5} = \frac{10}{15}$.

Step 4

Since, the denominators of all the fractions are the same, so add the numerators and keep the denominator the same.

$$\begin{aligned} \text{So, } & \frac{5}{15} + \frac{2}{3} + \frac{2}{5} \\ &= \frac{5}{15} + \frac{10}{15} + \frac{6}{15} \\ &= \frac{5 + 10 + 6}{15} \\ &= \frac{21}{15} \text{ or } \frac{7}{5} \end{aligned}$$

Step 5

Hence, in total they ate $\frac{7}{5}$ pies.

(2) c. $\frac{7}{6}$

Step 1

The fractions $\frac{6}{9}$ and $\frac{3}{6}$ are unlike fractions as their denominators are different. We will first convert the given fractions into equivalent like fractions.

Step 2

Let us first find the LCM of the denominators 6 and 9. The LCM is 18.

Step 3

To write $\frac{6}{9}$ as an equivalent fraction which has 18 as denominator, we need to multiply both the numerator and denominator by $\frac{18}{9} = 2$. So, the equivalent fraction is:

$$\frac{6 \times 2}{9 \times 2} = \frac{12}{18}$$

Step 4

Similarly, to write $\frac{3}{6}$ as an equivalent fraction which has 18 as denominator, we need to multiply both the numerator and denominator by $\frac{18}{6} = 3$. So, the equivalent fraction is:

$$\frac{3 \times 3}{6 \times 3} = \frac{9}{18}$$

Step 5

Now, we can add the equivalent like fractions by adding the numerators together and keeping the denominator same:

$$\frac{12}{18} + \frac{9}{18} = \frac{12 + 9}{18} = \frac{21}{18}$$

Step 6

In order to convert the fraction $\frac{21}{18}$ in the simplest/lowest form, let us divide both the numerator and denominator by their HCF.

Step 7

The HCF of 21 and 18 is 3.

Step 8

Hence, the simplest/lowest form of $\frac{21}{18}$ is $\frac{\frac{21}{3}}{\frac{18}{3}} = \frac{7}{6}$

(3) b. $1\frac{1}{8}$

Step 1

To find the amount of sugar used by 3 batches of cookies, multiply the amount of sugar needed to make 1 batch of cookies by 3. Thus, find $3 \times \frac{3}{8}$.

Step 2

3 can be written as $\frac{3}{1}$.

Now, multiply the numerators and the denominators to find the product.

$$\text{Thus, } 3 \times \frac{3}{8} = \frac{3}{1} \times \frac{3}{8} = \frac{3 \times 3}{1 \times 8} = \frac{9}{8}.$$

Now, Simplify the product:

$$\frac{9}{8} = 1\frac{1}{8}.$$

Step 3

Hence, David would use $1\frac{1}{8}$ of a cup of sugar to make 3 batches of cookies.

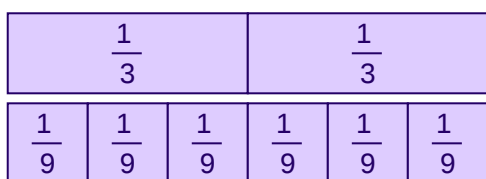
(4) c. $\frac{5}{9} + \frac{2}{3} = \frac{11}{9}$

Step 1

The given model shows $\frac{5}{9} + \frac{2}{3}$. Now, to add the fractions, we have to make the denominators of both the fractions the same.

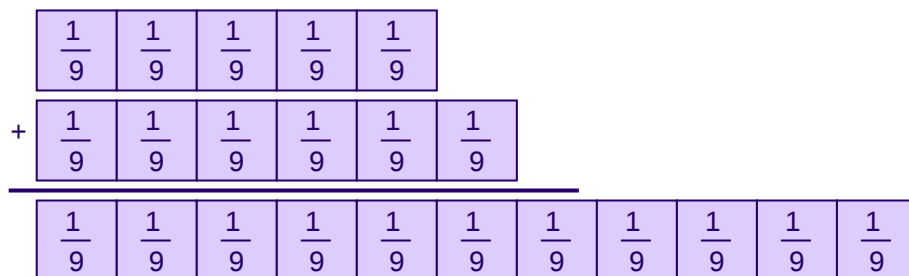
Step 2

Now, $\frac{2}{3}$ is the same size as $\frac{6}{9}$.



Step 3

Thus, $\frac{5}{9} + \frac{2}{3}$ is the same as $\frac{5}{9} + \frac{6}{9}$. Now, add:



Step 4

Hence, $\frac{5}{9} + \frac{2}{3} = \frac{11}{9}$.

(5) c. 6

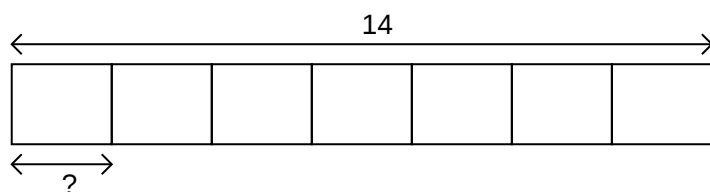
Step 1

To find the number of houses having satellite TV, find $\frac{3}{7}$ of 14.

Step 2

Let us draw a rectangle and mark the whole length of the rectangle by 14.

Let us now divide it in 7 equal parts.

**Step 3**

We find that $7 \times 1 \text{ part} = 14$

So, $1 \text{ part} = 14 \div 7 = 2$

Step 4

Thus, we can say that the value of one part is 2.

Therefore, $\frac{3}{7}$ of 14 = $3 \times 2 = 6$

Step 5

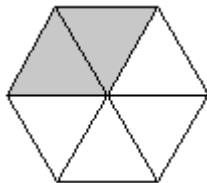
Hence, 6 of these houses have satellite TV.

(6)

2	6
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Step 1

According to the question, we have been asked to find the fraction of the shaded part of the following image:

**Step 2**

Total number of equal parts in the image = 6

As we can see, there are 2 shaded parts in the image.

Step 3

Fraction of the image that is shaded = $\frac{\text{Number of shaded parts}}{\text{Total number of parts of the image}}$

$$= \frac{2}{6}$$

Step 4

Hence, the fraction of the image that is shaded is $\frac{2}{6}$.

(7)

32	100
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Step 1

Firstly, to add the fractions we have to make the denominators of the fractions the same.

Since the denominator of $\frac{3}{10}$ is 10, thus multiply the fraction by 10, to get an equivalent fraction with denominator 100.

$$\text{So, } \frac{3 \times 10}{10 \times 10} = \frac{30}{100} .$$

Step 2

Now, add the fractions. Since, the denominators of both the fractions are the same, so add the numerators and keep the denominator the same.

$$\begin{aligned} \text{So, } & \frac{3}{10} + \frac{2}{100} \\ &= \frac{30}{100} + \frac{2}{100} \\ &= \frac{30 + 2}{100} \\ &= \frac{32}{100} \end{aligned}$$

Step 3

$$\text{Hence, } \frac{3}{10} + \frac{2}{100} = \frac{32}{100} .$$

(8) $2\frac{10}{11}$

Step 1

To find the amount of sugar used by 4 batches of cookies, multiply the amount of sugar needed to make 1 batch of cookies by 4. Thus, find $4 \times \frac{8}{11}$.

Step 2

4 can be written as $\frac{4}{1}$.

Now, multiply the numerators and the denominators to find the product.

$$\text{Thus, } 4 \times \frac{8}{11} = \frac{4}{1} \times \frac{8}{11} = \frac{4 \times 8}{1 \times 11} = \frac{32}{11}.$$

Now, Simplify the product:

$$\frac{32}{11} = 2\frac{10}{11}.$$

Step 3

Hence, Logan would use $2\frac{10}{11}$ of a cup of sugar to make 4 batches of cookies.

(9) $\frac{1}{11}$

Step 1

Fraction of the book read by Mason in two days = $\frac{6}{11}$

Fraction of the book read by Mason on the first day = $\frac{5}{11}$

Step 2

Fraction of the book read by Mason on the second day = Fraction of the book read by Mason in two days – Fraction of the book read by Mason on the first day

$$= \frac{6}{11} - \frac{5}{11}$$

$$= \frac{6 - 5}{11}$$

$$= \frac{1}{11}$$

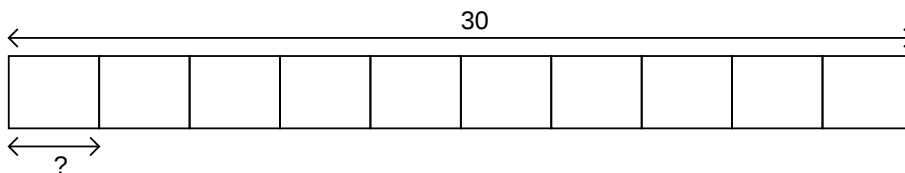
(10) 15

Step 1

To find the number of students who come to school by bus, find $\frac{5}{10}$ of 30.

Step 2

Let us draw a rectangle and mark the whole length of the rectangle by 30.
Let us now divide it in 10 equal parts.

**Step 3**

We find that $10 \times 1 \text{ part} = 30$
So, $1 \text{ part} = 30 \div 10 = 3$

Step 4

Thus, we can say that the value of one part is 3.

Therefore, $\frac{5}{10}$ of 30 = $5 \times 3 = 15$

Step 5

Hence, 15 students come to school by bus.



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