

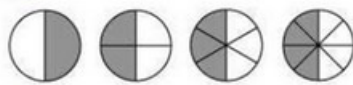


NCERT SOLUTIONS FOR CLASS 6 MATHS FRACTIONS EXERCISE 7.3

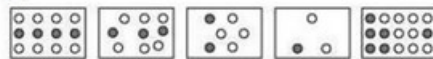
Question 1:

Write the fractions. Are all these fractions equivalent?

(a)

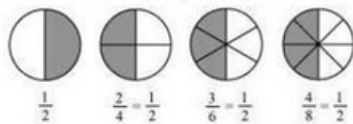


(b)



Answer:

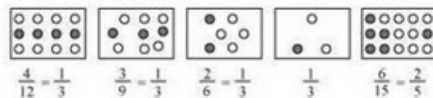
(a) In the given circles, 1 out of 2, 2 out of 4, 3 out of 6, and 4 out of 8 equal parts are shaded respectively. Therefore, these circles represent



Also, all these fractions are equivalent.

(b)

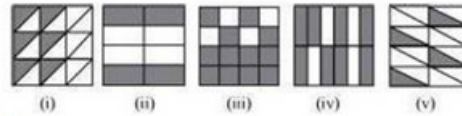
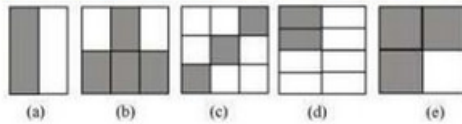
In the given rectangles, 4 out of 12, 3 out of 9, 2 out of 6, 1 out of 3, and 6 out of 15 equal parts (i.e., circles) are shaded respectively. Therefore, these rectangles represent



No, not all of these fractions are equivalent.

Question 2:

Write the fractions and pair up the equivalent fractions from each row.



Answer:

(a) Here, 1 part is shaded out of 2 equal parts (i.e., rectangle). Hence, this

figure represents a fraction $\frac{1}{2}$.

(b) Here, 4 parts are shaded out of 6 equal parts (i.e., rectangle). Hence,

this figure represents a fraction $\frac{4}{6} = \frac{2}{3}$.

(c) Here, 3 parts are shaded out of 9 equal parts (i.e., squares). Hence, this

figure represents a fraction $\frac{3}{9} = \frac{1}{3}$.

(d) Here, 2 parts are shaded out of 8 equal parts (i.e., rectangle). Hence,

this figure represents a fraction $\frac{2}{8} = \frac{1}{4}$.

(e) Here, 3 parts are shaded out of 4 equal parts (i.e., squares). Hence,

this figure represents a fraction $\frac{3}{4}$.

(i) Here, 6 parts are shaded out of 18 equal parts (i.e., triangles). Hence, this figure

represents a fraction $\frac{6}{18} = \frac{1}{3}$.

(ii) Here, 4 parts are shaded out of 8 equal parts (i.e., rectangles). Hence, this figure

represents a fraction $\frac{4}{8} = \frac{1}{2}$.

(iii) Here, 12 parts are shaded out of 16 equal parts (i.e., squares). Hence, this figure

represents a fraction $\frac{12}{16} = \frac{3}{4}$.

(iv) Here, 8 parts are shaded out of 12 equal parts (i.e., rectangles). Hence, this figure

represents a fraction $\frac{8}{12} = \frac{2}{3}$.

(v) Here, 4 parts are shaded out of 16 equal parts (i.e., triangles). Hence, this figure

represents a fraction $\frac{4}{16} = \frac{1}{4}$.

Now, these figures can be matched correctly as

(a) (ii), (b) (iv), (c) (i), (d) (v), (e) (iii)

Question 3:

Replace $\frac{2}{7}$ in each of the following by the correct number:

$$(a) \frac{2}{7} = \frac{8}{\square} \quad (b) \frac{5}{8} = \frac{10}{\square}$$

$$(c) \frac{3}{5} = \frac{\square}{20} \quad (d) \frac{45}{60} = \frac{15}{\square}$$

$$(e) \frac{18}{24} = \frac{\square}{4}$$

Answer:

$$(a) \frac{2}{7} = \frac{8}{\square}$$

$$\frac{2}{7} \times \frac{4}{4} = \frac{8}{28}$$

Hence, $\frac{2}{7}$ can be replaced by 28.

$$(b) \frac{5}{8} = \frac{10}{\square}$$

$$\frac{5}{8} \times \frac{2}{2} = \frac{10}{16}$$

Hence, $\frac{5}{8}$ can be replaced by 16.

$$(c) \frac{3}{5} = \frac{\square}{20}$$

$$\frac{3}{5} \times \frac{4}{4} = \frac{12}{20}$$

Hence, $\frac{3}{5}$ can be replaced by 12.

$$(d) \frac{45}{60} = \frac{15}{\square}$$

$$\frac{45}{60} = \frac{15}{20} \times \frac{3}{3}$$

Hence, $\frac{45}{60}$ can be replaced by 20.

$$(e) \frac{18}{24} = \frac{\square}{4}$$

$$\frac{18}{24} = \frac{3}{4} \times \frac{6}{6}$$

Hence, $\frac{18}{24}$ can be replaced by 3.

Question 4:

Find the equivalent fraction of $\frac{3}{5}$ having

(a) denominator 20 (b) numerator 9

(c) denominator 30 (d) numerator 27

Answer:

$$\frac{3}{5} = \frac{\square}{20}$$

(a) $\frac{3}{5} = \frac{\square}{20}$

$$3 \times 20 = 5 \times \square$$

$$3 \times 2 \times 2 \times 5 = 5 \times \square$$

$$12 = \square$$

Hence, the required fraction is $\frac{12}{20}$.

$$\frac{3}{5} = \frac{9}{\square}$$

(b) $\frac{3}{5} = \frac{9}{\square}$

$$3 \times \square = 5 \times 9$$

$$3 \times \square = 5 \times 3 \times 3$$

$$\square = 15$$

Hence, the required fraction is $\frac{9}{15}$.

$$\frac{3}{5} = \frac{\square}{30}$$

(c) $\frac{3}{5} = \frac{\square}{30}$

$$3 \times 30 = 5 \times \square$$

$$3 \times 2 \times 3 \times 5 = 5 \times \square$$

$$18 = \square$$

Hence, the required fraction is $\frac{18}{30}$.

$$\frac{3}{5} = \frac{27}{\square}$$

(d) $\frac{3}{5} = \frac{27}{\square}$

$$3 \times \square = 5 \times 27$$

$$3 \times \square = 5 \times 3 \times 3 \times 3$$

$$\square = 45$$

Hence, the required fraction is $\frac{27}{45}$.

Question 5:

Find the equivalent fraction of $\frac{36}{48}$ with

(a) numerator 9 (b) denominator 4

Answer:

$$\frac{36}{48} = \frac{9}{\square}$$

(a) $\frac{36}{48} = \frac{9}{\square}$

$$36 \times \square = 48 \times 9$$

$$3 \times 3 \times 2 \times 2 \times \square = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3$$

$$\square = 12$$

Hence, the required fraction is $\frac{9}{12}$.

$$\frac{36}{48} = \frac{\square}{4}$$

(b) $\frac{36}{48} = \frac{\square}{4}$

$$36 \times 4 = 48 \times \square$$

$$3 \times 3 \times 2 \times 2 \times 2 = 2 \times 2 \times 2 \times 3 \times \square$$

$$3 = \square$$

Hence, the required fraction is $\frac{3}{4}$.

Question 6:

Check whether the given fractions are equivalent:

$$(a) \frac{5}{9}, \frac{30}{54} \quad (b) \frac{3}{10}, \frac{12}{50}$$

$$(c) \frac{7}{13}, \frac{5}{11}$$

Answer:

$$(a) \frac{5}{9}, \frac{30}{54}$$

$$\frac{30}{54} = \frac{5 \times 6}{9 \times 6} = \frac{5}{9}$$

Clearly, both the fractions are equivalent.

$$(b) \frac{3}{10}, \frac{12}{50}$$

$$\frac{3}{10} = \frac{3 \times 2}{10 \times 2} = \frac{6}{20}$$

$$\frac{12}{50} = \frac{6 \times 2}{25 \times 2} = \frac{6}{25}$$

Clearly, both the fractions are not equivalent.

$$(c) \frac{7}{13}, \frac{5}{11}$$

$$\frac{7}{13} = \frac{7 \times 11}{13 \times 11} = \frac{77}{143}$$

$$\frac{5}{11} = \frac{5 \times 13}{11 \times 13} = \frac{65}{143}$$

Clearly, both the fractions are not equivalent.

Question 7:

Reduce the following fractions to simplest form:

$$(a) \frac{48}{60} \quad (b) \frac{150}{60}$$

$$(c) \frac{84}{98} \quad (d) \frac{12}{52}$$

$$(e) \frac{7}{28}$$

$$(a) \frac{48}{60} = \frac{12 \times 4}{12 \times 5} = \frac{4}{5}$$

$$(b) \frac{150}{60} = \frac{30 \times 5}{30 \times 2} = \frac{5}{2}$$

$$(c) \frac{84}{98} = \frac{14 \times 6}{14 \times 7} = \frac{6}{7}$$

$$(d) \frac{12}{52} = \frac{3 \times 4}{13 \times 4} = \frac{3}{13}$$

$$(e) \frac{7}{28} = \frac{7}{7 \times 4} = \frac{1}{4}$$

Question 8:

Ramesh had 20 pencils, Sheelu had 50 pencils and Jamaal had 80 pencils. After 4 months, Ramesh used up 10 pencils, Sheelu used up 25 pencils and Jamaal used up 40 pencils. What fraction did each use up? Check if each has used up an equal fraction of her/his pencils?

Answer:

$$\text{Fraction used by Ramesh} = \frac{10}{20} = \frac{1}{2}$$

$$\text{Fraction used by Sheelu} = \frac{25}{50} = \frac{1}{2}$$

$$\text{Fraction used by Jamaal} = \frac{40}{80} = \frac{1}{2}$$

Yes, all of them used equal fraction of pencils i.e., $\frac{1}{2}$.

Question 9:

Match the equivalent fractions and write two more for each.

$$(i) \quad (a) \frac{2}{3} \quad (iv) \frac{180}{360} \quad (d) \frac{5}{8}$$

$$(ii) \quad \frac{180}{200} \quad (b) \frac{2}{5} \quad (v) \frac{220}{550} \quad (e) \frac{9}{10}$$

$$(iii) \quad \frac{660}{990} \quad (c) \frac{1}{2}$$

Answer:

$$(i) \quad \frac{250}{400} = \frac{5 \times 50}{8 \times 50} = \frac{5}{8}$$

$$\text{Two more fractions are } \frac{25}{40}, \frac{30}{48}.$$

$$(ii) \quad \frac{180}{200} = \frac{9 \times 20}{10 \times 20} = \frac{9}{10}$$

$$\text{Two more fractions are } \frac{18}{20}, \frac{27}{30}.$$

$$(iii) \quad \frac{660}{990} = \frac{2 \times 330}{3 \times 330} = \frac{2}{3}$$

$$\text{Two more fractions are } \frac{20}{30}, \frac{200}{300}.$$

$$(iv) \quad \frac{180}{360} = \frac{1 \times 180}{2 \times 180} = \frac{1}{2}$$

$$\text{Two more fractions are } \frac{20}{40}, \frac{30}{60}.$$

$$(v) \quad \frac{220}{550} = \frac{2 \times 110}{5 \times 110} = \frac{2}{5}$$

$$\text{Two more fractions are } \frac{20}{50}, \frac{40}{100}.$$

Now, these can be matched as

(i) \rightarrow (d), (ii) \rightarrow (e), (iii) \rightarrow (a), (iv) \rightarrow (c), (v) \rightarrow (b)

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