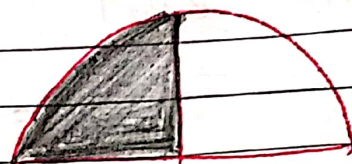


CHAPTER - 7 FRACTIONS (ਭਿੰਨ)

INTRODUCTION (ਸਾਂਝ - ਪਾਛਾਇ)

Coloured portion is 1 out of 2.



(ਭਿੰਨਾਂ ਵਿੱਚੋਂ ਇੱਕ ਹਿੱਸਾ ਹੈ ਜਾਂ 1/2 ਹਿੱਸਾ ਹੈ। ਇਹ 1/2 ਹਿੱਸਾ ਹੈ।)

ਇਸਦਾ ਭਿੰਨ $\frac{1}{2}$

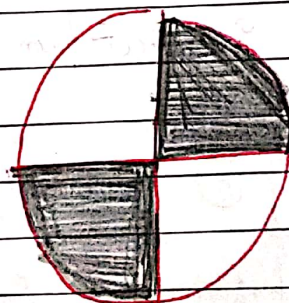
Learn

$$\text{Fraction} = \frac{\text{Numerator}}{\text{Denominator}}$$

$$\text{ਭਿੰਨ} = \frac{\text{ਅੰਕ}}{\text{ਸੰਖ}}$$

ਭਿੰਨ ਕਿਹੜਾ ਹੈ ?

Tell the fraction of this figure ?



$$\text{fraction} = \frac{2}{4}$$

(ਭਿੰਨ)

Que $\frac{3}{7}$, $\frac{4}{15}$ ਇਸਦੇ ਅੰਕ ਅਤੇ ਸੰਖ ਕਿਹੜੇ ਹਨ ?

Write the numerator and denominator of the given fractions?

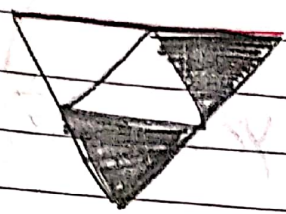
Ans. do yourself.

Exercise - 7.1

① Write the fraction representing the shaded fraction.

ਪ੍ਰਸ਼ਨ ਦਿੱਤਿਆ ਤਿਹਾਂ ਵਿਚ ਜਿਹੜਾ ਭਾਗ ਵੀ ਭਰਿਆ ਹੋਵੇ।

(i)

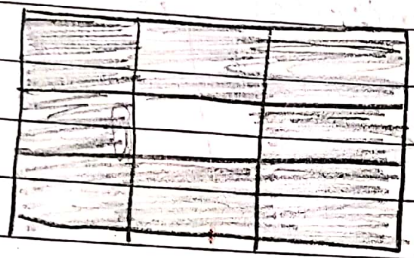


Total no. of parts = 4
ਕੁੱਲ ਭਾਗ = 4

No. of coloured parts = 2
ਜਿਹੜਾ ਭਾਗ = 2

Fraction (ਭਾਗ) = $\frac{2}{4}$

(ii)

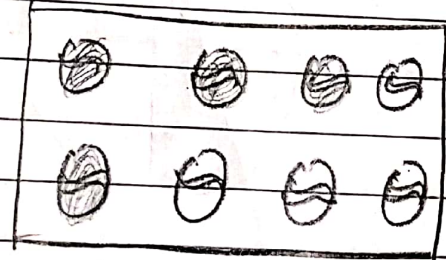


Total no. of parts (ਕੁੱਲ ਭਾਗ) = 9

No. of coloured parts (ਜਿਹੜਾ ਭਾਗ) = 8

Fraction (ਭਾਗ) = $\frac{8}{9}$

(iii)

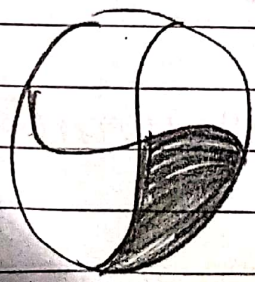


Total No. of parts (ਕੁੱਲ ਭਾਗ) = 8

ਜਿਹੜਾ ਭਾਗ (No. of coloured parts) = 4

Fraction (ਭਾਗ) = $\frac{4}{8}$

(iv)



Total no. of parts (ਕੁੱਲ ਭਾਗ) = 4

No. of coloured part (ਜਿਹੜਾ ਭਾਗ) = 1

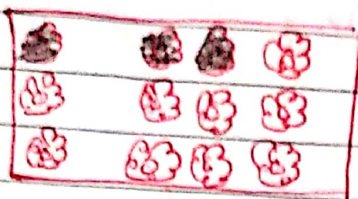
Fraction (ਭਾਗ) = $\frac{1}{4}$

(vi)



— Do yourself
(ଆପଣଙ୍କ ନିଜେ)

(vii)



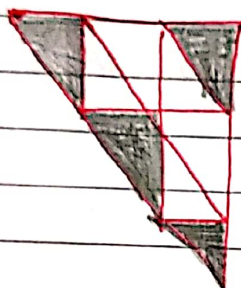
— Do yourself

(viii)



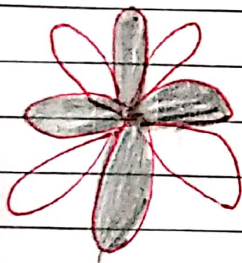
— Do yourself

(ix)



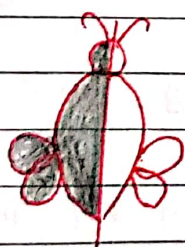
— ୨୨ ୨୨

(x)



— ୨୨ ୨୨

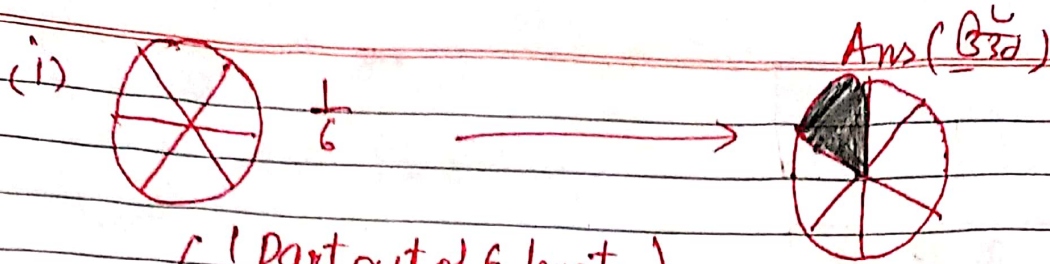
(xi)



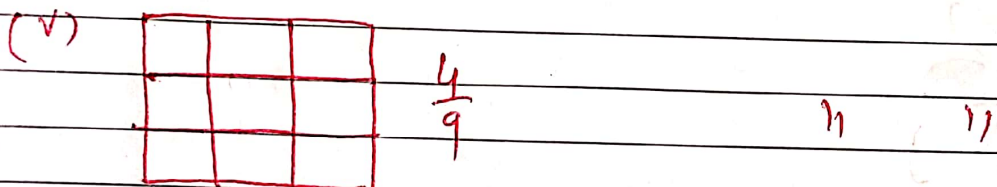
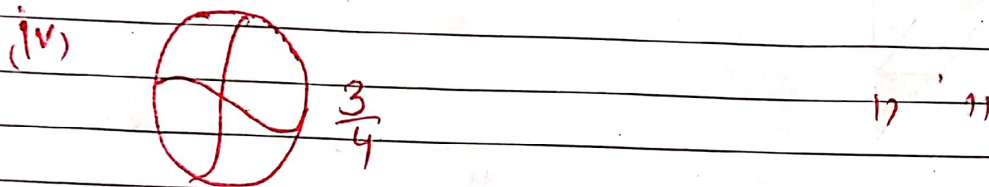
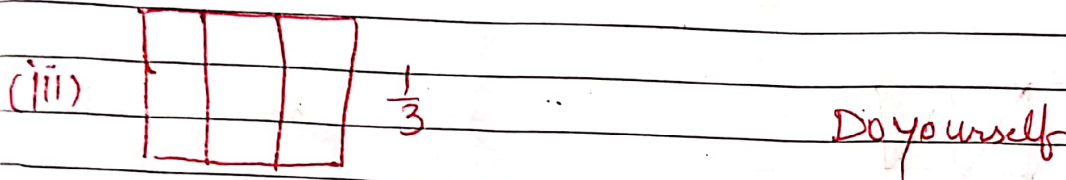
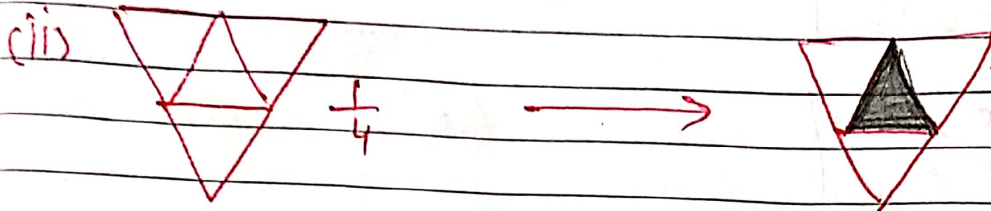
(Total parts) = 2
(Coloured portion) = 1

$$\text{Fraction (ଫ୍ରାକ୍ସନ୍)} = \frac{1}{2}$$

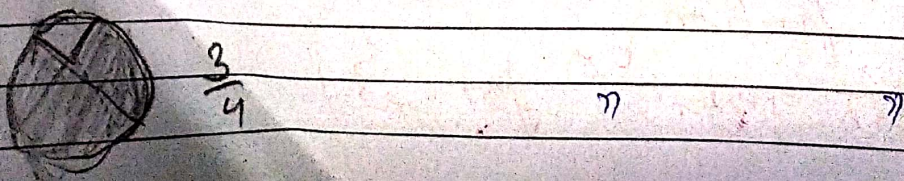
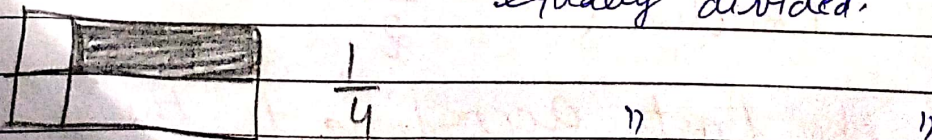
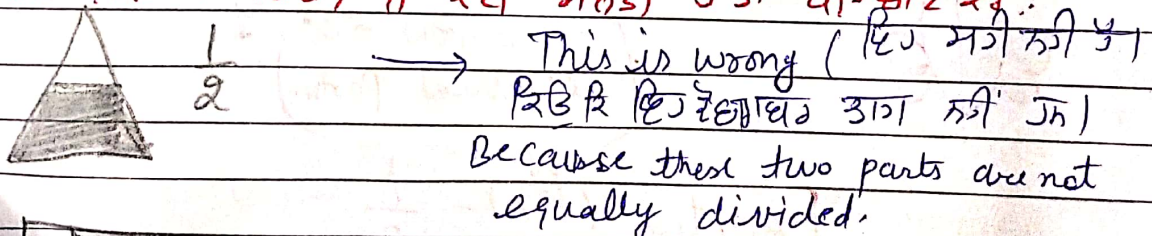
② Colour the part according to the given fraction.
ଫ୍ରାକ୍ସନ୍ ଖଣି ମଞ୍ଜୁରା ଓ ଫ୍ରାକ୍ସନ୍



(1 part out of 6 parts)
6 भागों में से 1 भाग को छाया किया



(3) Identify the error, if any
जो चित्रों में हैं, वे सही नहीं हैं जो परिभाषित हैं:



Que 4 What fraction of a day is 8 hours?
8 ghetre ke din ki kisi hisse ki?

Ans 1 day (ke din) = 24 hours (24 ghetre)

$$\text{Fraction (his)sa} = \frac{8 \text{ hours (8 ghetre)}}{24 \text{ hours (24 ghetre)}} \left[\because \frac{\text{hours}}{\frac{\text{hours}}{\text{his}sa}} \right]$$

$$= \frac{8 \times 1}{8 \times 3} = \frac{1}{3} = 1:3$$

Que 5 What fraction of an hour is 40 minutes?
40 ghente ke ghente ki kisi hisse ki?

Ans 1 hour (1 ghente) = 60 min (60 ghente)

$$\text{Fraction (his)sa} = \frac{40 \text{ min (40 ghente)}}{1 \text{ hour (1 ghente)}}$$

$$= \frac{40 \text{ min}}{60 \text{ min}} = \frac{2 \times 2}{2 \times 3} = 2:3$$

Que 6 Arya, Abhimanyu and Vineta shared lunch. Arya has brought two sandwiches, one made of vegetable and one of jam. The other two boys forgot to bring their lunch. Arya agreed to share his sandwiches so that each person will have an equal share of each sandwich.

(a) How many Arya divide his sandwiches so that each person has an equal share?

(b) What part of a sandwich will each boy receive?

(7)

(8) Write the natural numbers from 2 to 12. What fraction of them are prime numbers?

2 3 12 ਤੋਂ ਪ੍ਰਾਪਤ ਕੀਤੀਆਂ ਗਈਆਂ ਗਿਣਤੀਆਂ ਵਿੱਚੋਂ, ਇਹਨਾਂ ਵਿੱਚੋਂ ਅਧਿਕਾਂਸ਼ਤ ਕੀਤੀਆਂ ਗਈਆਂ ਗਿਣਤੀਆਂ ਹਨ।

Ans (2) (3) 4, (5), 6, (7) 8, 9, 10, (11), 12

fraction (ਭਿੰਨ) = ?

2 3 12 ਤੋਂ ਅਧਿਕਾਂਸ਼ਤ ਕੀਤੀਆਂ ਗਈਆਂ ਗਿਣਤੀਆਂ = 5

No. of prime no's from 2 to 12 is = 5

Total no's from 2 to 12 = 11

2 3 12 ਤੋਂ ਕੀਤੀਆਂ ਗਈਆਂ ਗਿਣਤੀਆਂ = 11

Fraction (ਭਿੰਨ) = $\frac{5}{11}$

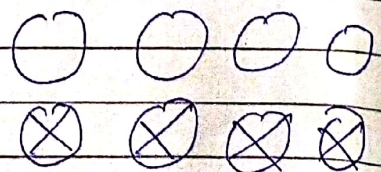
(9) Write the natural numbers from 102 to 113. What fraction of them are prime numbers?

102 ਤੋਂ 113 ਤੋਂ ਪ੍ਰਾਪਤ ਕੀਤੀਆਂ ਗਈਆਂ ਗਿਣਤੀਆਂ ਵਿੱਚੋਂ, ਇਹਨਾਂ ਵਿੱਚੋਂ ਅਧਿਕਾਂਸ਼ਤ ਕੀਤੀਆਂ ਗਈਆਂ ਗਿਣਤੀਆਂ ਹਨ।

Ans DO Yourself (ਆਪਣੇ ਆਪ ਤੋਂ ਕਰੋ)

(10) What fraction of these circles have 'x' in them?

ਇਹਨਾਂ ਚੱਕਰਾਂ ਵਿੱਚੋਂ ਕਿੰਨੀਆਂ ਚੱਕਰਾਂ ਵਿੱਚ 'x' ਹੈ?



Ans ਆਪਣੇ ਆਪ ਤੋਂ ਕਰੋ। (DO Yourself)

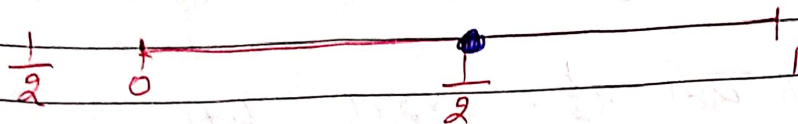
- ⑪ Kristin received a CD player for her birthday. She bought 3 CD's and received 5 others as gifts. What fraction of her total CD's did she buy and what fractions did she receive as a gifts?

ਕ੍ਰਿਸਟਿਨ ਜਾਪਣੇ ਸਮੇਂ ਦਿੱਤਾ ਉਹ ਉਹਨਾਂ ਦੀ
 ਘੜੀ (CD player) ਖਾਤਰ ਰਹੀ ਹੈ। ਉਹਨਾਂ
 3 ਸੀਡੀਆ ਖੁਰੀਦੀਆਂ ਅਤੇ 5 ਸੀਡੀਆਂ ਉਹਨਾਂ
 ਦੇ ਰੂਪ ਵਿੱਚ ਖਾਤਰ ਸੀਡੀਆਂ। ਉਹਨਾਂ ਦੁਆਰਾ
 ਖੁਰੀਦੀਆਂ ਗਈਆਂ ਸੀਡੀਆਂ ਦੀ ਸੰਖਿਆ ਅਤੇ
 ਉਹਨਾਂ ਉਹਨਾਂ ਦੇ ਰੂਪ ਵਿੱਚ ਖਾਤਰ ਸੀਡੀਆਂ ਦੀ
 ਸੰਖਿਆ, ਕੁੱਲ ਸੀਡੀਆਂ ਦੀ ਸੰਖਿਆ ਦੀ ਹਿੱਸੀ
 ਕਿੰਨੀ ਹੈ?

Ans Do yourself.

* FRACTION ON NUMBER LINE

* $\frac{1}{2}$ ની મીલકતે 0 થી 1 ની વચ્ચે રહે છે



* Proper fraction (સચોટ ભાગ)

All the fractions which are less than 1.

કેટલાક ભાગનાં સંખ્યા 1 કરતાં ઓછી હોય છે.

for example :- $\frac{3}{4}, \frac{1}{2}, \frac{9}{10}, \frac{6}{3}, \frac{5}{8}$ etc.

* IMPROPER FRACTIONS (અસચોટ ભાગ)

The fractions whose numerator is bigger than denominator are called improper fractions. કેટલાક ભાગનાં સંખ્યા 1 કરતાં વધારે હોય છે, જેને અસચોટ ભાગ કહેવાય.

$\frac{4}{3}, \frac{8}{7}$ etc.

MIXED FRACTIONS / મિશ્રિત કિંત

દિમરી ફિરાગ્ગ

$2\frac{1}{2}$

part

white

$2\frac{1}{2}$

દિમરી મગ્ગ રગ્ગ ફલી $2\frac{1}{2} = \frac{2 \times 2 + 1}{2} = \frac{4+1}{2} = \frac{5}{2}$

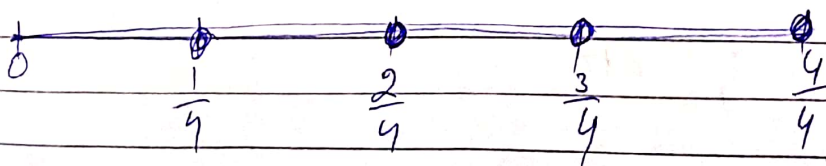
EXERCISE - 7.2

① Draw number line and locate these points. મીધમા રેખા ધિંચે માટે તેઠે ફિરમા કિંત $\frac{1}{2}$ મરિત રે.

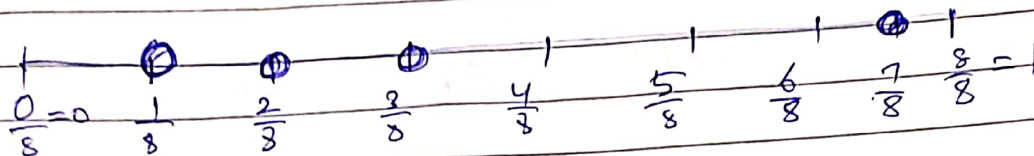
(a) $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}, \frac{4}{4}$

$\frac{1}{2} = \frac{2 \times 1}{2 \times 2} = \frac{2}{4}$ (Multiply numerator and deno. by 2)

મગ્ગ માટે જો $\frac{1}{2}$ રગ્ગક મગ્ગ રે $\frac{1}{2}$



(b) $\frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{7}{8}$



(c) $\frac{2}{5}, \frac{3}{5}, \frac{8}{5}, \frac{4}{5}$

Ans Do yourself

(2) Express the following as mixed fractions.
 ਦੋ ਪਿਥਿਆਂ $\frac{1}{2}$ ਮਿਲਾਤ ਤਿਆਰ ਕੀਤਾ ਹੈ ਪੁੱਖ ਇੱਥੇ ਪੁਸ਼ਟ ਕਰੋ।

(a) $\frac{20}{3}$

Ans $6 \frac{2}{3}$

$$\begin{array}{r} 3 \overline{) 20} 6 \\ \underline{18} \\ 2 \end{array}$$

(b) $\frac{11}{5}$

Ans $2 \frac{1}{5}$

$$\begin{array}{r} 5 \overline{) 11} 2 \\ \underline{10} \\ 1 \end{array}$$

(c) $\frac{17}{7}$

do yourself

(d) $\frac{28}{5}$

11 11

(e) $\frac{19}{6}$

11 1

(f) $\frac{35}{9}$

11 1

(12)

(13) Express the following as improper fractions.
 ଓଡ଼ିଆ ଭାଷାରେ: ନିମ୍ନଲିଖିତ ଅସଂପୂର୍ଣ୍ଣ ଭଗ୍ନାଂଶକୁ ଅସଂପୂର୍ଣ୍ଣ ଭଗ୍ନାଂଶରେ ପରିଣତ କର।

$$(a) 7\frac{3}{4} = \frac{7 \times 4 + 3}{4} = \frac{28 + 3}{4} = \frac{31}{4}$$

$$(b) 5\frac{6}{7} = \frac{7 \times 5 + 6}{7} = \frac{35 + 6}{7} = \frac{41}{7}$$

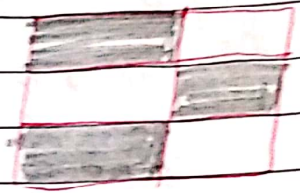
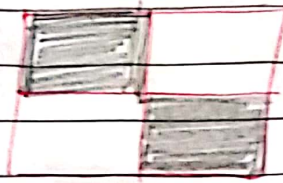
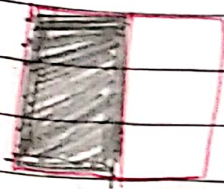
$$(c) 2\frac{5}{7} = \frac{7 \times 2 + 5}{7} = \frac{14 + 5}{7} = \frac{19}{7}$$

$$(d) 10\frac{3}{5} \quad \text{do yourself}$$

$$(e) 9\frac{3}{7} \quad \text{do yourself}$$

$$(f) 8\frac{4}{9} \quad \text{do yourself}$$

* Equivalent fractions ($\frac{u}{34}$ भा.)



$$\frac{1}{2}$$

$$\frac{2}{4} = \frac{\cancel{2} \times 1}{\cancel{2} \times 2} = \frac{1}{2}$$

$$\frac{3}{6} = \frac{\cancel{3} \times 1}{\cancel{3} \times 2} = \frac{1}{2}$$

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$$

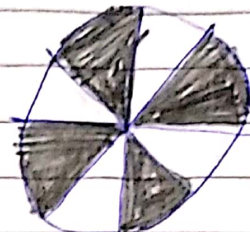
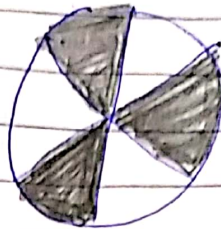
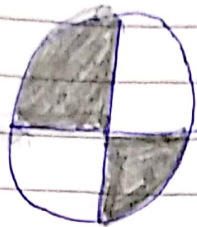
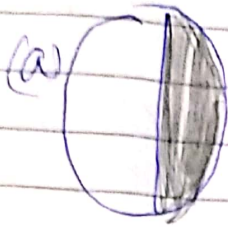
SIMPLEST FORM OF A FRACTION ($\frac{12}{24}$ को सरल करें)

$$\frac{24}{24} = \frac{12 \times 3}{12 \times 2} = \frac{3}{2}$$

Exercise - 7.3

① Write the fractions. All are these fractions equivalent?

ਭਿੰਨ ਲਿਖੋ? ਇਹਨਾਂ ਵਿੱਚੋਂ ਤੁਹਾਨੂੰ ਭਿੰਨ ਲੱਖੋ।

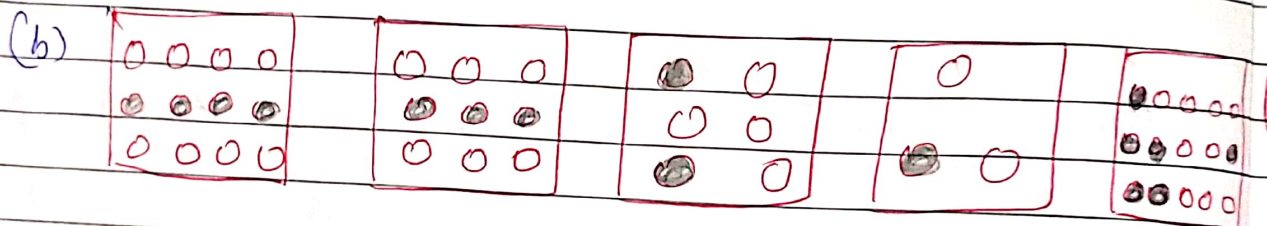


$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$$

$$\frac{3}{6} = \frac{1}{2}$$

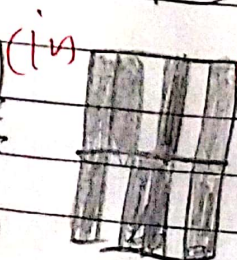
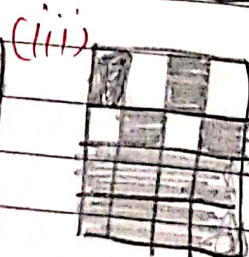
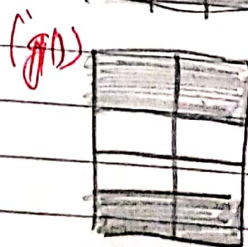
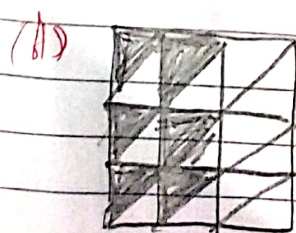
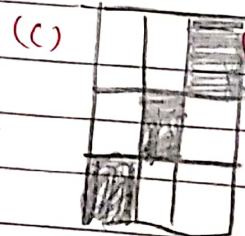
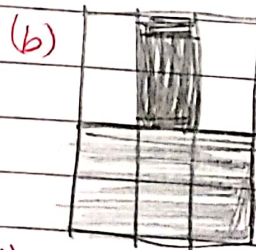
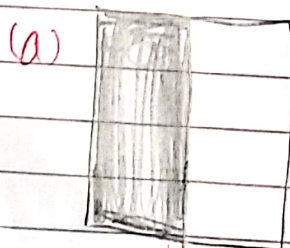
$$\frac{4}{8} = \frac{1}{2}$$

$$\frac{1}{2} = \frac{1}{2} = \frac{1}{2} = \frac{1}{2}$$



Do yourself

② ਹੇਠਲੀਆਂ ਅਨੁਸਾਰ ਭਿੰਨਾਂ ਦੇ ਯੋਗੀ ਭਿੰਨਾਂ ਦੇ ਲਿਖੋ।
ਮੇਰੇ ਸਰੋਤ ਅਨੁਸਾਰ ਇਹ ਤੁਹਾਨੂੰ ਭਿੰਨਾਂ ਦੇ ਲਿਖੋ।



3) Replace $\square$ in each of the following by correct no.

10 ਕਿਰਪਾਮਿਤ੍ਰਿ ਇਹ ਹਰ $\square$ ਤੇ ਸਹੀ ਅੰਕਿਤ ਕਰਨਾ ਚਾਹੀਦਾ ਹੈ।

(a) $\frac{2}{1} = \frac{8}{\square}$
 $\times 4$ (from 1 to 4) and $\times 4$ (from 2 to 8)

(b) $\frac{5}{8} = \frac{10}{\square}$
 $\times 2$ (from 5 to 10) and $\times 2$ (from 8 to 16)

(c) $\frac{3}{5} = \frac{12}{\square}$
 $\times 4$ (from 3 to 12) and $\times 4$ (from 5 to 20)

(d) $\frac{45}{60} = \frac{15}{\square}$
 $\div 3$ (from 45 to 15) and $\div 3$ (from 60 to 20)

(e) $\frac{18}{24} = \frac{\square}{4}$
 $\div 6$ (from 18 to 3) and $\div 6$ (from 24 to 4)

4) Find the equivalent fraction of $\frac{3}{5}$ having denominator = 20

(a) ਹਰ 20 ਤੱਕ
 denominator = 20

Ans $\frac{3}{5} = \frac{12}{20}$
 $\times 4$ (from 3 to 12) and $\times 4$ (from 5 to 20)

(b) ਅੰਕ 9 ਤੱਕ
 numerator = 9

$\frac{3}{5} = \frac{9}{15}$
 $\times 3$ (from 3 to 9) and $\times 3$ (from 5 to 15)

(c) 30

denominator = 30

Ans do yourself

(d) 27

numerator = 27

Ans do yourself

(5) $\frac{36}{48}$ ਦੇ $\frac{3}{4}$ ਦੇ ਤੌਰ 'ਤੇ ਪੜ੍ਹਾਏ ਜਾਣਗੇ।
 (a) ਨੰਮਰ 9 (b) 4

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

(a) numerator = 9 (b) denominator = 4

Ans (a) $\frac{36}{48} = \frac{4 \times 9}{4 \times 12} = \frac{9}{12}$

(b) $\frac{36}{48} = \frac{12 \times 3}{12 \times 4} = \frac{3}{4}$

(6) Check whether the given fractions are equivalent or not.

ਜਾਂਚ ਕਰੋ ਕਿ ਦਿੱਤੇ ਫਰੈਕਸ਼ਨ ਇੱਕ ਦੂਜੇ ਦੇ ਬਰਾਬਰ ਹਨ ਜਾਂ ਨਹੀਂ।

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

Ans $\frac{5}{9} = \frac{5}{9}$

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

ਜੀ ਹਾਂ, ਇਹ ਦੋ ਫਰੈਕਸ਼ਨ ਇੱਕ ਦੂਜੇ ਦੇ ਬਰਾਬਰ ਹਨ।

Yes these fractions are equivalent.

(b) $\frac{3}{10} + \frac{12}{50}$
Do yourself

(c) $\frac{7}{13} + \frac{5}{11}$
Do yourself

(7) Reduce them into simplest form.
તેમને સરળ સ્વરૂપમાં લખો :-

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

(b) $\frac{150}{60} = \frac{10 \times 15}{10 \times 6} = \frac{15}{6} = \frac{3 \times 5}{3 \times 2} = \frac{5}{2}$

(c) $\frac{84}{98}$ do yourself

(d) $\frac{12}{52}$ " "

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

(8) રમેશ વેળા 20 પેન્સિલો, શેલુ 50 પેન્સિલો
અને જાનમલ વેળા 80 પેન્સિલો. 4 મહીને
બાદ, રમેશ ને 10 પેન્સિલો, શેલુ ને 25 પેન્સિલો
અને જાનમલ ને 40 પેન્સિલો હોડીમા. તેમને
માથડીમાં પેન્સિલોની કિંમતો કેટલી હોડી
(પૂર્ણ સંખ્યા) નામ રહે છે તે જોડે ને માથડીમાં
પેન્સિલોની કિંમત કેટલી હોડી?

Ramesh had 20 pencils, Shelly had 50 pencils
and Janmal had 80 pencils. After 4
months, Ramesh used up 10 pencils.

Sheela used up 25 pencils and Jamnal used up 40 pencils. What fraction did each use up? Check if each has used up an equal fraction of his/her pencils?

Ans

Total pencils having Ramesh = 20
pencils used by Ramesh = 10

$$\text{fraction (of pencils used)} = \frac{10}{20} = \frac{10 \times 1}{10 \times 2} = \frac{1}{2}$$

$$\text{Hly, fraction of pencils used by Sheela} = \frac{25}{50}$$

$$= \frac{25 \times 1}{25 \times 2} = \frac{1}{2}$$

$$\text{Hly, fraction of pencils used by Jamnal} = \frac{40}{80}$$

$$= \frac{40 \times 1}{40 \times 2} = \frac{1}{2}$$

ਜਾਂ ਰਮੇਸ਼ ਦੇ 20 ਪੈਨਸਿਲਾਂ = 20
ਦਰਮਿਆ ਪੈਨਸਿਲਾਂ ਦੀ ਗਿਣਤੀ = 10

$$\text{ਭਿੰਨ} = \frac{10}{20} = \frac{1}{2}$$

$$\text{Hly, ਸ਼ੀਲਾ ਦੀ ਪੈਨਸਿਲਾਂ ਦੀ ਭਿੰਨ} = \frac{25}{50} = \frac{1}{2}$$

$$\text{Hly, ਜਮਨਾਲ ਦੇ ਪੈਨਸਿਲਾਂ ਦੀ ਭਿੰਨ} = \frac{40}{80} = \frac{1}{2}$$

9) Match the equivalent fraction and write two more fractions.

ਉਹ ਫ਼ਰਸ਼ਾਂ ਜੋ ਬਿਸ਼ਵਾਸ ਨਹੀਂ ਕਰਦੇ ਉਹ ਫ਼ਰਸ਼ਾਂ ਨਹੀਂ ਲਿਖਦੇ।

(i) $\frac{250}{400} = \frac{25 \times 10}{40 \times 10} = \frac{25}{40} = \frac{5}{8}$

(a) $\frac{2}{3}$

(ii) $\frac{180}{200} = \frac{9 \times 2 \times 10}{20 \times 10} = \frac{9}{10}$

(b) $\frac{20}{5}$

(iii) $\frac{660}{990} = \frac{11 \times 6 \times 10}{11 \times 9 \times 10} = \frac{6}{9} = \frac{2}{3}$

(c) $\frac{1}{20}$

(iv) $\frac{180}{360} = \frac{9 \times 2 \times 10}{9 \times 4 \times 10} = \frac{2}{4} = \frac{1}{2}$

(d) $\frac{5}{8}$

(v) $\frac{220}{550} = \frac{11 \times 2 \times 10}{11 \times 5 \times 10} = \frac{2}{5}$

(e) $\frac{9}{10}$

Z.