Chapter 7: Fractions

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Exercise 7.1 — Fractional Units and Equal Shares

Q1 Three guavas together weigh 1 kg. If they are roughly of the same size, each guava will roughly weigh ____ kg.

SOLUTION

Three equal-sized guavas together weigh 1 kg.
Share of each guava = 1 ÷ 3 = 1/3 kg.

Answer: 1/3 kg

Q2 A wholesale merchant packed 1 kg of rice in four packets of equal weight. The weight of each packet is ___ kg.

SOLUTION

1 kg of rice is packed equally into 4 packets.
Weight of each packet = 1 ÷ 4 = 1/4 kg.

Answer: 1/4 kg

Q3 Four friends ordered 3 glasses of sugarcane juice and shared it equally among themselves. Each one drank ____ glass of sugarcane juice.

SOLUTION

3 glasses shared equally among 4 friends.
Each friend's share = 3 ÷ 4 = 3/4 glass.

Answer: 3/4 glass

Q4 The big fish weighs 1/2 kg. The small one weighs 1/4 kg. Together they weigh ____ kg.

SOLUTION

Total weight = 1/2 + 1/4.
Converting to the same fractional unit: 1/2 = 2/4.
2/4 + 1/4 = 3/4 kg.

Answer: 3/4 kg

Q5 Arrange these fraction words in order of size from the smallest to the biggest: One and a half, three quarters, one and a quarter, half, quarter, two and a half.

SOLUTION

Convert each to a fraction:
Quarter = 1/4, Half = 1/2, Three quarters = 3/4,
One and a quarter = 1 + 1/4 = 5/4,
One and a half = 1 + 1/2 = 3/2,
Two and a half = 2 + 1/2 = 5/2.

Ordering: 1/4 < 1/2 < 3/4 < 5/4 < 3/2 < 5/2.

Answer: Quarter, half, three quarters, one and a quarter, one and a half, two and a half

Exercise 7.2 — Fractional Units as Parts of a Whole

Q1 The figures below show different fractional units of a whole chikki. How much of a whole chikki is each piece? (a) through (h)

SOLUTION

Each piece is obtained by cutting the whole chikki into equal parts. Counting the equal parts in each figure:

a. The chikki is cut into 12 equal parts; each piece = 1/12.

b. The chikki is cut into 4 equal parts; each piece = 1/4.

c. The chikki is cut into 8 equal parts; each piece = 1/8.

d. The chikki is cut into 6 equal parts; each piece = 1/6.

e. The chikki is cut into 8 equal parts; each piece = 1/8.

f. The chikki is cut into 6 equal parts; each piece = 1/6.

g. The chikki is cut into 24 equal parts; each piece = 1/24.

h. The chikki is cut into 24 equal parts; each piece = 1/24.

Answer: a = 1/12, b = 1/4, c = 1/8, d = 1/6, e = 1/8, f = 1/6, g = 1/24, h = 1/24

Exercise 7.3 — Measuring Using Fractional Units

Q1 Continue this table of 1/2 for 2 more steps.

SOLUTION

The table so far shows: 1×(1/2)=1/2, 2×(1/2)=2/2, 3×(1/2)=3/2, 4×(1/2)=4/2, 5×(1/2)=5/2.

Step 6: 6 × 1/2 = 6/2 = 3.

Step 7: 7 × 1/2 = 7/2.

Answer: 6 times 1/2 = 6/2 = 3; 7 times 1/2 = 7/2

Q2 Can you create a similar table for 1/4?

SOLUTION

Yes. A table for 1/4 follows the same pattern:

1 × 1/4 = 1/4,

2 × 1/4 = 2/4,

3 × 1/4 = 3/4,

4 × 1/4 = 4/4 = 1,

5 × 1/4 = 5/4, and so on.

Answer: Yes; n × 1/4 = n/4 for each step n = 1, 2, 3, …

Q3 Make 1/3 using a paper strip. Can you use this to also make 1/6?

SOLUTION

Fold a paper strip into 3 equal parts — each part is 1/3.

Now fold each 1/3 part in half: each piece becomes 1/6.

So yes, by halving each 1/3 piece we get 1/6.

Answer: Yes; fold the 1/3 piece in half to obtain 1/6

Q4 Draw a picture and write an addition statement to show: (a) 5 times 1/4 of a roti, (b) 9 times 1/4 of a roti.

SOLUTION

a. 5 times 1/4 of a roti:

1/4 + 1/4 + 1/4 + 1/4 + 1/4 = 5/4 of a roti.

b. 9 times 1/4 of a roti:

1/4 + 1/4 + 1/4 + 1/4 + 1/4 + 1/4 + 1/4 + 1/4 + 1/4 = 9/4 = 2 + 1/4 of a roti.

Answer: a. 5/4 of a roti; b. 9/4 (i.e., 2 and 1/4) of a roti

Q5 Match each fractional unit with the correct picture: 1/3, 1/5, 1/8, 1/6 (four circles each divided differently).

SOLUTION

Count the equal parts each circle is divided into:

Circle with 3 equal parts → 1/3.

Circle with 5 equal parts → 1/5.

Circle with 8 equal parts → 1/8.

Circle with 6 equal parts → 1/6.

Answer: 1/3 ↔ circle divided into 3 parts; 1/5 ↔ 5 parts; 1/8 ↔ 8 parts; 1/6 ↔ 6 parts

Exercise 7.4 — Marking Fraction Lengths on the Number Line

Q1 On a number line, draw lines of lengths 1/10, 3/10, and 4/5.

SOLUTION

Divide the unit (0 to 1) into 10 equal parts; each part = 1/10.
1/10: mark at the 1st tick after 0.
3/10: mark at the 3rd tick after 0.
4/5 = 8/10: mark at the 8th tick after 0.

Answer: 1/10 is at the 1st tenth-mark; 3/10 at the 3rd; 4/5 (= 8/10) at the 8th

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Q2 How many fractions lie between 0 and 1? Think, discuss with your classmates, and write your answer.

SOLUTION

Between 0 and 1, we can place fractions with any denominator n (n ≥ 2): 1/n, 2/n, …, (n-1)/n.
As n can be any whole number, there is no limit.
Therefore, infinitely many (uncountably many) fractions lie between 0 and 1.

Answer: Infinitely many fractions lie between 0 and 1

Q3 What is the length of the black line shown on the number line? The unit (0 to 1) is divided into two equal parts, and the blue line has length 1/2. Write the fraction for the black line.

SOLUTION

The unit (0 to 2) is divided into halves; each half = 1/2.
The blue line spans from 0 to 1/2 → length 1/2.
The black line extends from 0 past 1 to the next half-mark, i.e., from 0 to 3/2.
Length of black line = 3/2.

Answer: 3/2

Q4 Write the fraction that gives the lengths of the black lines on the number line where the unit is divided into 5 equal parts. Marks shown: 1/5, 2/5, 3/5, 4/5, 1 — the four black lines extend beyond 1.

SOLUTION

The unit is divided into 5 equal parts; each part = 1/5.
The four black lines extend from 0 to successive marks past 1:
First black line reaches 6 parts → 6/5.
Second black line reaches 7 parts → 7/5.
Third black line reaches 8 parts → 8/5.
Fourth black line reaches 9 parts → 9/5.

Answer: 6/5, 7/5, 8/5, 9/5

Exercise 7.5 — Mixed Fractions

Q1 How many whole units are there in 7/2?

SOLUTION

7/2 = 1/2 + 1/2 + 1/2 + 1/2 + 1/2 + 1/2 + 1/2.

Every 2 halves make 1 whole: 7 ÷ 2 = 3 remainder 1.

So 7/2 = 3 + 1/2 → 3 whole units.

Answer: 3 whole units

Q2 How many whole units are there in 4/3 and in 7/3?

SOLUTION

4/3: 4 ÷ 3 = 1 remainder 1, so 4/3 = 1 + 1/3 → 1 whole unit.

7/3: 7 ÷ 3 = 2 remainder 1, so 7/3 = 2 + 1/3 → 2 whole units.

Answer: 4/3 contains 1 whole unit; 7/3 contains 2 whole units

Exercise 7.6 — Mixed Fractions — Writing improper fractions as mixed numbers

Q1 Figure out the number of whole units in each of the following fractions: (a) 8/3, (b) 11/5, (c) 9/4.

SOLUTION

a. 8 ÷ 3 = 2 remainder 2, so 8/3 = 2 + 2/3 → 2 whole units.
b. 11 ÷ 5 = 2 remainder 1, so 11/5 = 2 + 1/5 → 2 whole units.
c. 9 ÷ 4 = 2 remainder 1, so 9/4 = 2 + 1/4 → 2 whole units.

Answer: a. 2 whole units; b. 2 whole units; c. 2 whole units

Q2 Can all fractions greater than 1 be written as mixed numbers?

SOLUTION

No. When the numerator is an exact multiple of the denominator, the result is a whole number, not a mixed number.
Example: 8/4 = 2, which is a whole number with no fractional part.

Answer: No; fractions like 8/4 = 2 are whole numbers, not mixed numbers

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Q3 Write the following fractions as mixed fractions: (a) 9/2, (b) 9/5, (c) 21/19, (d) 47/9, (e) 12/11, (f) 19/6.

SOLUTION

a. 9 ÷ 2 = 4 remainder 1 → 9/2 = 4 1/2.
b. 9 ÷ 5 = 1 remainder 4 → 9/5 = 1 4/5.
c. 21 ÷ 19 = 1 remainder 2 → 21/19 = 1 2/19.
d. 47 ÷ 9 = 5 remainder 2 → 47/9 = 5 2/9.
e. 12 ÷ 11 = 1 remainder 1 → 12/11 = 1 1/11.
f. 19 ÷ 6 = 3 remainder 1 → 19/6 = 3 1/6.

Answer: a. 4 1/2; b. 1 4/5; c. 1 2/19; d. 5 2/9; e. 1 1/11; f. 3 1/6

Exercise 7.7 — Mixed Fractions — Writing mixed numbers as fractions

Q1 Write the following mixed numbers as fractions: (a) 3 1/4, (b) 7 2/3, (c) 9 4/9, (d) 3 1/6, (e) 2 3/11, (f) 3 9/10.

SOLUTION

To convert a mixed number to an improper fraction: multiply the whole part by the denominator and add the numerator.

a. 3 1/4: (3×4 + 1)/4 = 13/4.

b. 7 2/3: (7×3 + 2)/3 = 23/3.

c. 9 4/9: (9×9 + 4)/9 = 85/9.

d. 3 1/6: (3×6 + 1)/6 = 19/6.

e. 2 3/11: (2×11 + 3)/11 = 25/11.

f. 3 9/10: (3×10 + 9)/10 = 39/10.

Answer: a. 13/4; b. 23/3; c. 85/9; d. 19/6; e. 25/11; f. 39/10

Exercise 7.8 — Equivalent Fractions — Fraction wall

Q1 Looking at the fraction wall: Are the lengths 1/2 and 3/6 equal?

SOLUTION

3/6 = 3 ÷ 3 / (6 ÷ 3) = 1/2.

Both represent the same length on the fraction wall.

Answer: Yes, 1/2 and 3/6 are equal

Q2 Are 2/3 and 4/6 equivalent fractions? Why?

SOLUTION

4/6 = (4 ÷ 2)/(6 ÷ 2) = 2/3.

On the fraction wall, two 1/3-length pieces equal four 1/6-length pieces, confirming equal lengths.

So 2/3 and 4/6 are equivalent fractions.

Answer: Yes; 4/6 simplifies to 2/3, and both show the same length on the fraction wall

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Q3 How many pieces of length 1/6 will make a length of 1/2?

SOLUTION

Number of 1/6 pieces needed = (1/2) ÷ (1/6) = (1/2) × 6 = 3.

Answer: 3 pieces of length 1/6 make a length of 1/2

Q4 How many pieces of length 1/6 will make a length of 1/3?

SOLUTION

Number of 1/6 pieces needed = (1/3) ÷ (1/6) = (1/3) × 6 = 2.

Answer: 2 pieces of length 1/6 make a length of 1/3

Exercise 7.9 — Equivalent Fractions — Fraction wall (extended)

Q1 Are 3/6, 4/8, and 5/10 equivalent fractions? Why?

SOLUTION

3/6 = 1/2 (divide numerator and denominator by 3).
4/8 = 1/2 (divide by 4).
5/10 = 1/2 (divide by 5).
All three equal 1/2, so they are equivalent fractions.

Answer: Yes; 3/6 = 4/8 = 5/10 = 1/2

Q2 Write two equivalent fractions for 2/6.

SOLUTION

Multiply or divide both numerator and denominator by the same non-zero number.
2/6 ÷ 2 = 1/3.
2/6 × 2 = 4/12.
Two equivalent fractions: 1/3 and 4/12.

Answer: 1/3 and 4/12 (many other answers possible)

Q3 4/6 = __ = __ = __ = … (Write as many equivalent fractions as you can.)

SOLUTION

4/6 in lowest terms: divide both by 2 → 2/3.
Multiply 2/3 by successive integers: 4/6, 6/9, 8/12, 10/15, 12/18, 14/21, …
Equivalently: 4/6 = 2/3 = 6/9 = 8/12 = 10/15 = 12/18 = …

Answer: 4/6 = 2/3 = 6/9 = 8/12 = 10/15 = 12/18 = … (pattern: multiply numerator and denominator by the same whole number)

Exercise 7.10 — Equivalent Fractions — Equal shares (missing numbers)

Q1 Find the missing numbers: (a) 5 glasses of juice shared equally among 4 friends is the same as ____ glasses of juice shared equally among 8 friends. So 5/4 = __/8. (b) 4 kg of potatoes divided equally in 3 bags is the same as 12 kg of potatoes divided equally in ___ bags. So 4/3 = 12/___. (c) 7 rotis divided among 5 children is the same as ____ rotis divided among _____ children. So 7/5 = ___/___.

SOLUTION

a. 5/4 = ?/8: multiply numerator and denominator by 2 → 10/8. Missing number = 10.

b. 4/3 = 12/?: 12/4 = 3, so denominator is multiplied by 3 → 9. Missing number = 9.

c. 7/5: any equivalent fraction works; multiplying by 2 gives 14/10.
One valid answer: 14 rotis divided among 10 children.

Answer: a. 10; b. 9; c. one answer: 14 rotis among 10 children (14/10)

Q2 Three rotis are shared equally by four children. Write a fraction for how much each child gets, and write the corresponding division, addition, and multiplication facts.

SOLUTION

Each child gets 3 ÷ 4 = 3/4 roti.

Division fact: 3 ÷ 4 = 3/4.
Addition fact: 3 = 3/4 + 3/4 + 3/4 + 3/4.
Multiplication fact: 3 = 4 × 3/4.

Answer: Each child gets 3/4 roti; 3 ÷ 4 = 3/4; 3 = 3/4 + 3/4 + 3/4 + 3/4; 3 = 4 × 3/4

Q3 Draw a picture to show how much each child gets when 2 rotis are shared equally by 4 children. Write the division, addition, and multiplication facts.

SOLUTION

2 rotis ÷ 4 children: each child gets 2/4 = 1/2 roti.

Division fact: 2 ÷ 4 = 2/4 = 1/2.
Addition fact: 2 = 1/2 + 1/2 + 1/2 + 1/2.
Multiplication fact: 2 = 4 × 1/2.

Answer: Each child gets 1/2 roti; 2 ÷ 4 = 1/2; 2 = 1/2 + 1/2 + 1/2 + 1/2; 2 = 4 × 1/2

Q4 Anil was in a group where 2 cakes were divided equally among 5 children. How much cake would Anil get?

SOLUTION

2 cakes shared equally among 5 children.
Anil's share = 2 ÷ 5 = 2/5 cake.

Answer: 2/5 cake

Exercise 7.11 — Equivalent Fractions — Finding equivalent fractions with same denomin

Q1 Find equivalent fractions for the given pairs of fractions such that the fractional units (denominators) are the same: (a) 7/2 and 3/5, (b) 8/3 and 5/6, (c) 3/4 and 3/5, (d) 6/7 and 8/5, (e) 9/4 and 5/2, (f) 1/10 and 2/9, (g) 8/3 and 11/4, (h) 13/6 and 1/9.

SOLUTION

Use the LCM of the two denominators as the common denominator.

a. 7/2 and 3/5: LCM(2,5)=10. → 35/10 and 6/10.
b. 8/3 and 5/6: LCM(3,6)=6. → 16/6 and 5/6.
c. 3/4 and 3/5: LCM(4,5)=20. → 15/20 and 12/20.
d. 6/7 and 8/5: LCM(7,5)=35. → 30/35 and 56/35.
e. 9/4 and 5/2: LCM(4,2)=4. → 9/4 and 10/4.
f. 1/10 and 2/9: LCM(10,9)=90. → 9/90 and 20/90.
g. 8/3 and 11/4: LCM(3,4)=12. → 32/12 and 33/12.
h. 13/6 and 1/9: LCM(6,9)=18. → 39/18 and 2/18.

Answer: a. 35/10 & 6/10; b. 16/6 & 5/6; c. 15/20 & 12/20; d. 30/35 & 56/35; e. 9/4 & 10/4; f. 9/90 & 20/90; g. 32/12 & 33/12; h. 39/18 & 2/18

Exercise 7.12 — Equivalent Fractions — Lowest terms

Q1 Express the following fractions in lowest terms: (a) 17/51, (b) 64/144, (c) 126/147, (d) 525/112.

SOLUTION

a. 17/51: HCF(17,51)=17 (since 51=3×17). → 17÷17 / 51÷17 = 1/3.
b. 64/144: HCF(64,144)=16 (64=4×16, 144=9×16). → 64÷16 / 144÷16 = 4/9.
c. 126/147: HCF(126,147)=21 (126=6×21, 147=7×21). → 126÷21 / 147÷21 = 6/7.
d. 525/112: HCF(525,112)=7 (525=75×7, 112=16×7). → 525÷7 / 112÷7 = 75/16.

Answer: a. 1/3; b. 4/9; c. 6/7; d. 75/16

Exercise 7.13 — Comparing Fractions

Q1 Compare the following fractions and justify your answers: (a) 8/3 and 5/2, (b) 4/9 and 3/7, (c) 7/10 and 9/14, (d) 12/5 and 8/5, (e) 9/4 and 5/2.

SOLUTION

Convert each pair to a common denominator and compare numerators.

a. 8/3 and 5/2: LCD=6. 8/3=16/6, 5/2=15/6. 16>15, so 8/3 > 5/2.
b. 4/9 and 3/7: LCD=63. 4/9=28/63, 3/7=27/63. 28>27, so 4/9 > 3/7.
c. 7/10 and 9/14: LCD=70. 7/10=49/70, 9/14=45/70. 49>45, so 7/10 > 9/14.
d. 12/5 and 8/5: same denominator. 12>8, so 12/5 > 8/5.
e. 9/4 and 5/2: LCD=4. 9/4=9/4, 5/2=10/4. 9<10, so 9/4 < 5/2.

Answer: a. 8/3 > 5/2; b. 4/9 > 3/7; c. 7/10 > 9/14; d. 12/5 > 8/5; e. 9/4 < 5/2

Q2 Write the following fractions in ascending order: (a) 7/10, 11/15, 2/5; (b) 19/24, 5/6, 7/12.

SOLUTION

a. LCD(10,15,5)=30. 7/10=21/30, 11/15=22/30, 2/5=12/30.
Order: 12/30 < 21/30 < 22/30 → 2/5 < 7/10 < 11/15.

b. LCD(24,6,12)=24. 19/24=19/24, 5/6=20/24, 7/12=14/24.
Order: 14/24 < 19/24 < 20/24 → 7/12 < 19/24 < 5/6.

Answer: a. 2/5 < 7/10 < 11/15; b. 7/12 < 19/24 < 5/6

Q3 Write the following fractions in descending order: (a) 25/16, 7/8, 13/4, 17/32; (b) 3/4, 12/5, 7/12, 5/4.

SOLUTION

a. LCD(16,8,4,32)=32. 25/16=50/32, 7/8=28/32, 13/4=104/32, 17/32=17/32.
Descending: 104/32 > 50/32 > 28/32 > 17/32 → 13/4 > 25/16 > 7/8 > 17/32.

b. Convert to decimals to order: 12/5=2.4, 5/4=1.25, 3/4=0.75, 7/12≈0.583.
Descending: 12/5 > 5/4 > 3/4 > 7/12.

Answer: a. 13/4 > 25/16 > 7/8 > 17/32; b. 12/5 > 5/4 > 3/4 > 7/12

Exercise 7.14 — Addition and Subtraction of Fractions — Same denominator

Q1 5/8 − 3/8 = ?

SOLUTION

Same denominator (8); subtract numerators: 5 − 3 = 2.
2/8 = 1/4 (dividing by HCF 2).

Answer: 1/4

Q2 7/9 − 5/9 = ?

SOLUTION

Same denominator (9); subtract numerators: 7 − 5 = 2.
Result = 2/9.

Answer: 2/9

Q3 10/27 − 1/27 = ?

SOLUTION

Same denominator (27); subtract numerators: 10 − 1 = 9.
9/27 = 1/3 (dividing by HCF 9).

Answer: 1/3

Exercise 7.15 — Addition and Subtraction of Fractions — Brahmagupta's method (additio

Q1 Add the following fractions using Brahmagupta's method: (a) 2/7 + 5/7 + 6/7, (b) 3/4 + 1/3, (c) 2/3 + 5/6, (d) 2/3 + 2/7, (e) 3/4 + 1/3 + 1/5, (f) 2/3 + 4/5, (g) 4/5 + 2/3, (h) 3/5 + 5/8, (i) 9/2 + 5/4, (j) 8/3 + 2/7, (k) 3/4 + 1/3 + 1/5, (l) 2/3 + 4/5 + 3/7, (m) 9/2 + 5/4 + 7/6.

SOLUTION

a. 2/7 + 5/7 + 6/7: same denom, add numerators: (2+5+6)/7 = 13/7.
b. 3/4 + 1/3: LCD=12. 9/12 + 4/12 = 13/12.
c. 2/3 + 5/6: LCD=6. 4/6 + 5/6 = 9/6 = 3/2.
d. 2/3 + 2/7: LCD=21. 14/21 + 6/21 = 20/21.
e. 3/4 + 1/3 + 1/5: LCD=60. 45/60 + 20/60 + 12/60 = 77/60.
f. 2/3 + 4/5: LCD=15. 10/15 + 12/15 = 22/15.
g. 4/5 + 2/3: LCD=15. 12/15 + 10/15 = 22/15.
h. 3/5 + 5/8: LCD=40. 24/40 + 25/40 = 49/40.
i. 9/2 + 5/4: LCD=4. 18/4 + 5/4 = 23/4.
j. 8/3 + 2/7: LCD=21. 56/21 + 6/21 = 62/21.
k. 3/4 + 1/3 + 1/5: same as (e) = 77/60.
l. 2/3 + 4/5 + 3/7: LCD=105. 70/105 + 84/105 + 45/105 = 199/105.
m. 9/2 + 5/4 + 7/6: LCD=12. 54/12 + 15/12 + 14/12 = 83/12.

Answer: a. 13/7; b. 13/12; c. 3/2; d. 20/21; e. 77/60; f. 22/15; g. 22/15; h. 49/40; i. 23/4; j. 62/21; k. 77/60; l. 199/105; m. 83/12

Q2 Rahim mixes 2/3 litres of yellow paint with 3/4 litres of blue paint to make green paint. What is the volume of green paint he has made?

SOLUTION

Volume = 2/3 + 3/4.
LCD(3,4) = 12.
2/3 = 8/12, 3/4 = 9/12.
Total = 8/12 + 9/12 = 17/12 = 1 5/12 litres.

Answer: 17/12 litres = 1 5/12 litres

Q3 Geeta bought 2/5 metre of lace and Shamim bought 3/4 metre of lace to put a complete border on a table cloth whose perimeter is 1 metre. Find the total length of lace they bought. Will it be sufficient to cover the whole border?

SOLUTION

Total lace = 2/5 + 3/4.

LCD(5,4) = 20.

2/5 = 8/20, 3/4 = 15/20.

Total = 8/20 + 15/20 = 23/20 metres.

23/20 > 1, so the lace is more than 1 metre — it is sufficient.

Answer: 23/20 metres = 1 3/20 metres; yes, the lace is sufficient

Exercise 7.16 — Addition and Subtraction of Fractions — Brahmagupta's method (subtra

Q1 Carry out the following subtractions using Brahmagupta's method: (a) 8/15 − 3/15, (b) 2/5 − 4/15, (c) 5/6 − 4/9, (d) 2/3 − 1/2.

SOLUTION

a. 8/15 − 3/15: same denom. (8−3)/15 = 5/15 = 1/3.
b. 2/5 − 4/15: LCD=15. 6/15 − 4/15 = 2/15.
c. 5/6 − 4/9: LCD=18. 15/18 − 8/18 = 7/18.
d. 2/3 − 1/2: LCD=6. 4/6 − 3/6 = 1/6.

Answer: a. 1/3; b. 2/15; c. 7/18; d. 1/6

Q2 Subtract as indicated: (a) 13/4 from 10/3, (b) 18/5 from 23/3, (c) 29/7 from 45/7.

SOLUTION

a. 10/3 − 13/4: LCD=12. 40/12 − 39/12 = 1/12.
b. 23/3 − 18/5: LCD=15. 115/15 − 54/15 = 61/15.
c. 45/7 − 29/7: same denom. (45−29)/7 = 16/7.

Answer: a. 1/12; b. 61/15; c. 16/7

Q3 Jaya's school is 7/10 km from her home. She takes an auto for 1/2 km from her home, then walks the remaining distance. How much does she walk daily to reach school?

SOLUTION

Distance walked = 7/10 − 1/2.
LCD(10,2) = 10.
1/2 = 5/10.
7/10 − 5/10 = 2/10 = 1/5 km.

Answer: 1/5 km

Q4 Jeevika takes 10/3 minutes to complete a round of the park and her friend Namit takes 13/4 minutes. Who takes less time and by how much?

SOLUTION

Compare 10/3 and 13/4: LCD=12. 10/3 = 40/12, 13/4 = 39/12.
39/12 < 40/12, so Namit takes less time.
Difference = 40/12 − 39/12 = 1/12 minute.

Answer: Namit takes less time, by 1/12 minute