EXERCISE 3A

Classify each fraction given below as decimal or vulgar fraction, proper or improper fraction and mixed fraction:

(i) 3/5
(ii) 11/10
(iii) 13/20
(iv) 18/7
(v) 3 2/9
Solution:

(i) 3/5 is a vulgar and proper fraction.

(ii) 11/10 is a decimal and improper fraction.

(iii) 13/20 is a decimal and proper fraction.

(iv) 18/7 is a vulgar and improper fraction.

(v) 3 2/9 is a mixed fraction.

2. Express the following improper fractions as mixed fractions:
(i) 18/5
(ii) 7/4
(iii) 25/6
(iv) 38/5
(v) 22/5
Solution:

(i) 18/5 can be expressed as mixed fractions as 3 3/5.

(ii) 7/4 can be expressed as mixed fractions as 1 3/4.

(iii) 25/6 can be expressed as mixed fractions as 4 1/6.

(iv) 38/5 can be expressed as mixed fractions as 7 3/5.

(v) 22/5 can be expressed as mixed fractions as 4 2/5.

3. Express the following mixed fractions as improper fractions:
(i) 2 4/9
(ii) 7 5/13
(iii) 3 1/4
(iv) 2 5/48
(v) 12 7/11
Solution:

(i) 2 4/9
It can be written as

$= (2 \times 9 + 4)/$

9

By further calculation
= (18 + 4)/ 9
= 22/9

(ii) 7 5/13
It can be written as
= (7 × 13 + 5)/ 13
By further calculation
= (91 + 5)/ 13
= 96/13

(iii) 3 1/4
It can be written as
= (3 × 4 + 1)/ 4
By further calculation
= (12 + 1)/ 4
= 13/4

(iv) 2 5/48
It can be written as
= (2 × 48 + 5)/ 48
By further calculation
= (96 + 5)/ 48
= 101/48

(v) 12 7/11
It can be written as
= (12 × 11 + 7)/ 11
By further calculation
= (132 + 7)/ 11
= 139/11

4. Reduce the given fractions to lowest terms:
(i) 8/18
(ii) 27/36
(iii) 18/42
(iv) 35/75
(v) 18/45
Solution:

(i) 8/18
Here the HCF of 8 and 18 is 2
So by dividing numerator and denominator by 2
= (8 ÷ 2)/ (18 ÷ 2)
We get
= 4/9

(ii) 27/36
Here the HCF of 27 and 36 is 9
So by dividing numerator and denominator by 9

= (27 ÷ 9)/ (36 ÷ 9)
We get
= 3/4

(iii) 18/42
Here the HCF of 18 and 42 is 6
So by dividing both numerator and denominator by 6
= (18 ÷ 6)/ (42 ÷ 6)
We get
= 3/7

(iv) 35/75
Here the HCF of 35 and 75 is 5
So by dividing both numerator and denominator by 5
= (35 ÷ 5)/ (75 ÷ 5)
We get
= 7/15

(v) 18/45
Here the HCF of 18 and 45 is 9
So by dividing both numerator and denominator by 9
= (18 ÷ 9)/ (45 ÷ 9)
We get
= 2/5

5. State true or false:
(i) 30/40 and 12/16 are equivalent fractions.
(ii) 10/25 and 25/10 are equivalent fractions.
(iii) 35/49, 20/28, 45/63 and 100/140 are equivalent fractions.
Solution:

(i) True.
Here 30/40 = 3/4 and 12/16 = 3/4

(ii) False.
Here 10/25 = 2/5 and 25/10 = 5/2

(iii) True.
35/49 = 5/7, 20/28 = 5/7, 45/63 = 5/7 and 100/140 = 5/7 where all are equal.

6. Distinguish each of the fractions, given below, as a simple fraction or a complex fraction:
(i) 0/8
(ii) -3/-8
(iii) 5/-7
(iv) 3 3/5/ 18
(v) -6/ 2 2/5
(vi) 3 1/3/ 7 2/7
(vii) – 5 2/9/ 5
(viii) -8/0
Solution:

(i) 0/8 is a simple fraction.

(ii) -3/-8 is a simple fraction.

(iii) 5/-7 is a simple fraction.

(iv) 3 3/5/ 18 is a complex fraction.

(v) -6/ 2 2/5 is a complex fraction.

(vi) 3 1/3/ 7 2/7 is a complex fraction.

(vii) – 5 2/9/ 5 is a complex fraction.

(viii) -8/0 is neither a complex nor a simple fraction.