

OBJECTIVE TYPE QUESTIONS

PAGE: 6.36

Mark the correct alternative in each of the following:

1. Which of the following is a proper fraction?

- (a) $\frac{4}{3}$
- (b) $\frac{3}{4}$
- (c) $\frac{13}{4}$
- (d) $\frac{21}{5}$

Solution:

The option (b) is correct answer.

We know that in a proper fraction, the numerator is less than the denominator.

2. Which of the following is an improper fraction?

- (a) $\frac{1}{2}$
- (b) $\frac{3}{7}$
- (c) $\frac{7}{3}$
- (d) $\frac{3}{15}$

Solution:

The option (c) is correct answer.

We know that in an improper fraction, the numerator is more than the denominator.

3. Which of the following is a fraction equivalent of $\frac{2}{3}$?

- (a) $\frac{4}{5}$
- (b) $\frac{8}{6}$
- (c) $\frac{10}{25}$
- (d) $\frac{10}{15}$

Solution:

The option (d) is correct answer.

Consider

$$\frac{10}{15} = \frac{2}{3}$$

By cross multiplication

$$10 \times 3 = 2 \times 15$$

We get

$$30 = 30$$

4. A fraction equivalent to $\frac{3}{5}$ is

- (a) $\frac{3+2}{5+2}$
- (b) $\frac{3-2}{5-2}$
- (c) $\frac{3 \times 2}{5 \times 2}$
- (d) None of these

Solution:

The option (c) is correct answer.

We know that by dividing the numerator and denominator by 2, we obtain $\frac{3}{5}$.**5. If $\frac{5}{12}$ is equivalent of $\frac{x}{3}$, then $x =$**

- (a) $5/4$
- (b) $4/5$
- (c) $5/3$
- (d) $3/5$

Solution:

The option (a) is correct answer.

Consider $5/12 = x/3$

By cross multiplication

$$5 \times 3 = 12 \times x$$

So we get

$$x = (5 \times 3)/12 = (5 \times 3)/(4 \times 3) = 5/4$$

6. Which of the following are like fractions?

- (a) $3/5, 3/7, 3/11, 3/16$
- (b) $5/11, 7/11, 15/11, 2/11$
- (c) $2/3, 3/4, 4/5, 6/7$
- (d) None of these

Solution:

The option (b) is correct answer.

We know that like fractions are the fractions with the same denominator.

7. If $11/4 = 77/x$, then $x =$

- (a) 28
- (b) $77/28$
- (c) 44
- (d) 308

Solution:

The option (a) is correct answer.

$$11/4 = 77/x$$

By cross multiplication

$$11 \times x = 77 \times 4$$

$$x = (77 \times 4)/11 = (7 \times 11 \times 4)/11$$

Dividing both the numerator & denominator by 11, we obtain 28.

8. $1/(2\ 1/3) + 1/(1\ 3/4)$ is equal to

- (a) $7/14$
- (b) $12/49$
- (c) $4\ 1/12$
- (d) None of these

Solution:

The option (d) is correct answer.

$$2\frac{1}{3} + 1\frac{3}{4} = \frac{1}{\frac{(3 \times 2) + 1}{3}} + \frac{1}{\frac{(4 \times 1) + 3}{4}}$$

So we get

$$\frac{1}{\frac{7}{3}} + \frac{1}{\frac{7}{4}} = \frac{3}{7} + \frac{4}{7}$$

On further calculation,

$$\frac{1}{2\frac{1}{3}} + \frac{1}{1\frac{3}{4}} = \frac{(3 + 4)}{7} = \frac{7}{7} = 1$$

9. If $1/3 + 1/2 + 1/x = 4$, then $x = ?$

- (a) 5/18
- (b) 6/19
- (c) 18/5
- (d) 24/11

Solution:

The option (b) is correct answer.

It is given that

$$1/3 + 1/2 + 1/x = 4$$

On further calculation

$$1/x = 4 - 1/3 - 1/2$$

By taking LCM of 3 and 2 as 6

$$1/x = 24/6 - 2/6 - 3/6$$

So we get

$$1/x = (24 - 2 - 3)/6 = 19/6$$

Hence, $x = 6/19$

10. If $1/2 + 1/x = 2$, then $x =$

- (a) 2/5
- (b) 5/2
- (c) 3/2
- (d) 2/3

Solution:

The option (d) is correct answer.

It is given that

$$1/2 + 1/x = 2$$

On further calculation

$$1/x = 2 - 1/2$$

By taking LCM as 2 we get

$$1/x = 4/2 - 1/2 = (4 - 1)/2 = 3/2$$

Hence, $x = 2/3$

11. Which of the following fractions is the smallest?

$1/2, 3/7, 3/5, 4/9$

- (a) 4/9
- (b) 3/5
- (c) 3/7

(d) $1/2$

Solution:

The option (c) is correct answer.

We know that the LCM of numerator is 12

By converting each fraction to an equivalent fraction having 12 as numerator

$$1/2 = 1/2 \times 12/12 = 12/24$$

$$3/7 = 3/7 \times 4/4 = 12/28$$

$$3/5 = 3/5 \times 4/4 = 12/20$$

$$4/9 = 4/9 \times 3/3 = 12/27$$

We know that if the numerator is same the fraction having larger denominator is the smallest.

Hence, $3/7$ is the smallest fraction.

12. Which of the following fractions is the greatest of all?

$7/8, 6/7, 4/5, 5/6$

(a) $6/7$

(b) $4/5$

(c) $5/6$

(d) $7/8$

Solution:

The option (d) is correct answer.

We know that the LCM of 8, 7, 6 and 5 is 840

By converting each fraction to an equivalent fraction having 840 as denominator

$$7/8 = 7/8 \times 105/105 = 735/840$$

$$6/7 = 6/7 \times 120/120 = 720/840$$

$$4/5 = 4/5 \times 168/168 = 672/840$$

$$5/6 = 5/6 \times 140/140 = 700/840$$

We know that if the denominator is same the fraction having larger numerator is the greatest.

Hence, $7/8$ is the greatest fraction.

13. What is the value of $a+b/a-b$, If $a/b=4$?

(a) $3/5$

(b) $5/3$

(c) $4/5$

(d) $5/4$

Solution:

The option (b) is correct answer.

It is given that $a/b = 4$

We can write it as $a = 4b$

By substituting the value of a in $a+b/a-b$

$$a+b/a-b = 4b+b/4b-b = 5b/3b$$

Dividing numerator and denominator by b , the value is $5/3$.

14. If $a/b = 4/3$, then the value of $6a+4b/ 6a-5b$ is

(a) -1

(b) 3

(c) 4

(d) 5

Solution:

The option (c) is correct answer.

It is given that $a/b = 4/3$

We can write it as $a = 4b/3$

By substituting the value of a in $6a+4b/6a-5b$

$$\frac{6a + 4b}{6a - 5b} = \frac{6 \left(\frac{4b}{3} \right) + 4b}{6 \left(\frac{4b}{3} \right) - 5b}$$

On further calculation,

$$\frac{6a + 4b}{6a - 5b} = \frac{\left(\frac{24b}{3} \right) + 4b}{\left(\frac{24b}{3} \right) - 5b}$$

We know that LCM is 3 so multiply and divide by 3

$$\frac{6a + 4b}{6a - 5b} = \frac{\frac{24b}{3} + \frac{12b}{3}}{\frac{24b}{3} - \frac{15b}{3}} = \frac{24b + 12b}{24b - 15b} = \frac{36b}{9b}$$

Dividing by HCF of $36b$ and $9b$

$$\text{We get } \frac{6a + 4b}{6a - 5b} = 4$$

15. If $1/5 - 1/6 = 4/x$, then $x =$

(a) -120

(b) -100

(c) 100

(d) 120

Solution:

The option (d) is correct answer.

It is given that

$$1/5 - 1/6 = 4/x$$

LCM of 5 and 6 is 30

$$4/x = 6/30 - 5/30$$

On further calculation

$$4/x = 1/30$$

So we get

$$x = 4 (30) = 120$$

16. The fraction to be added to $6 \frac{7}{15}$ to get $8 \frac{1}{5}$ is equal to

(a) $11/15$

(b) $1 \frac{1}{15}$

(c) $44/3$

(d) $3/44$

Solution:

The option (b) is correct answer.

Consider x as the fraction to be added

We know that

$$6\frac{7}{15} + x = 8\frac{1}{5}$$

On further calculation

$$\frac{(15 \times 6) + 7}{15} + x = \frac{(8 \times 5) + 1}{5}$$

We get

$$\frac{97}{15} + x = \frac{41}{5}$$

It can be written as

$$x = \frac{41}{5} - \frac{97}{15}$$

LCM of 15 and 5 is 15

$$x = \frac{123}{15} - \frac{97}{15} = \frac{26}{15} = 1\frac{11}{15}$$

17. If $45/60$ is equivalent to $3/x$, then $x =$

- (a) 5
- (b) 4
- (c) 6
- (d) 20

Solution:

The option (b) is correct answer.

It is given that

$$45/60 = 3/x$$

By cross multiplication

$$45 \times x = 3 \times 60$$

It can be written as

$$x = (3 \times 60)/45 = 180/45$$

Dividing the fraction by HCF

$$(180 \div 45)/(45 \div 45) = 4$$

18. A fraction equivalent to $45/105$ is

- (a) $6/14$
- (b) $4/7$

(c) $5/7$

(d) $7/5$

Solution:

The option (a) is correct answer.

The given fraction is $45/105$

By dividing the numerator and denominator with the HCF

$$(45 \div 15)/(105 \div 15) = 3/7$$

On further calculation

$$3/7 = 3/7 \times 2/2 = 6/14$$

19. $5/8 + 3/4 - 7/12$ is equal to

(a) $15/24$

(b) $17/24$

(c) $19/24$

(d) $21/24$

Solution:

The option (c) is correct answer.

The given fraction is

$$5/8 + 3/4 - 7/12$$

We know that the LCM is 24

$$= (5 \times 3)/(8 \times 3) + (3 \times 6)/(4 \times 6) - (7 \times 2)/(12 \times 2)$$

On further calculation

$$= 15/24 + 18/24 - 14/24$$

So we get

$$= 19/24$$

20. The correct fraction in the box \square is $\square - 5/8 = 1/4$

(a) $6/8$

(b) $7/8$

(c) $1/2$

(d) None of these

Solution:

The option (b) is correct answer.

The given equation is

$$\square - 5/8 = 1/4$$

It can be written as

$$\square = 1/4 + 5/8$$

We know that the LCM is 8

$$\square = 2/8 + 5/8 = 7/8$$