EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Problems on Quadratic Equations

Grade : ICSE Grade X

1. One pipe can fill a cistern in 2 hours less than the other.
   The two pipes together can fill it in $9\frac{39}{40}$ hrs.
   Find the time that each pipe will take to fill the cistern.
   (i) 19 hr , 21 hr (ii) 20 hr , 22 hr (iii) 18 hr , 20 hr (iv) 22 hr , 24 hr (v) 17 hr , 18 hr

2. A stream flows from A to B, a distance of 13.00 km. A man who can row in still water at 6.00 kmph, can row up and down in 14.18 hr . What is the speed of the stream?
   (i) 7.00 kmph (ii) 4.00 kmph (iii) 6.00 kmph (iv) 3.00 kmph (v) 5.00 kmph

3. A play field is 40.00 m by 30.00 m . It has a road all around it on the outside.
   Find the width of the road if its area is $\frac{17}{16}$ of the area of the play field
   (i) 9.50 m (ii) 5.50 m (iii) 8.50 m (iv) 7.50 m (v) 6.50 m

4. If the difference of two numbers is 4 and their product is 192, find the numbers
   (i) (-10),(-14) or 10,14 (ii) (-11),(-15) or 11,15 (iii) (-12),(-16) or 12,16 (iv) (-13),(-17) or 13,17
   (v) (-15),(-19) or 15,19

5. Find the number which is less than its square by 42
   (i) 6 (ii) 7 (iii) 4 (iv) 9 (v) 8

6. Twice the square of a number exceeds 5 times the number by 150. Find the number
   (i) 7 (ii) 10 (iii) 9 (iv) 13 (v) 11

7. The product of two consecutive even numbers is 48. Find the numbers
   (i) 5 , 7 or -5 , -7 (ii) 6 , 8 or -6,-8 (iii) 3 , 5 or -3 , -5 (iv) 7 , 9 or -7 , -9 (v) 9 , 10 or -9 , -10

8. The area of a rectangular room is 96.00 sq.m. If the length and breadth are increased by 6 m, the area would become 264.00 sq.m. Find the original dimensions of the room
   (i) 3.00 m , 32.00 m (ii) 4.00 m , 24.00 m (iii) 2.00 m , 48.00 m (iv) 16.00 m , 6.00 m

9. The sum of the ages of a father and his son is 53 years whereas thirteen years ago, the product of their ages was 50. Find the current ages of the son and the father.
   (i) 17 years , 36 years (ii) 15 years , 38 years (iii) 16 years , 37 years (iv) 13 years , 40 years
   (v) 14 years , 39 years

10. A number is of two digits. The digit in unit's place is the square of the digit in ten's place. The number formed by reversing the digits exceeds twice the number by (-6) . Find the number
    (i) 25 (ii) 22 (iii) 24 (iv) 23 (v) 26

11. The sum of the numerator and denominator of a fraction is 46.
If 1 is added to both the numerator and denominator,
the fraction is increased by $\frac{1}{300}$. Find the fraction

(i) $\frac{22}{24}$ (ii) $\frac{5}{6}$ (iii) 1 (iv) $\frac{24}{22}$

12. A can do a work in x days and B can do it in $(x+16)$ days.
Both of them working together can do it in $14\frac{29}{62}$ days. Calculate x

(i) 23 (ii) 22 (iii) 24 (iv) 20 (v) 26

13. 53 is divided into two parts such that the sum of their reciprocals is $\frac{53}{150}$.
Find the two parts

(i) $(52,1)$ (ii) $(49,4)$ (iii) $(51,2)$ (iv) $(50,3)$ (v) $(48,5)$

14. The sum of the squares of two consecutive even numbers is 452. Find the numbers

(i) $(-18),(-16)\text{or}18,16$ (ii) (-16) , (-14) or 16 , 14 (iii) $(-13),(-12)\text{or}13,12$ (iv) $(-17),(-15)\text{or}17,15$

(v) $(-15),(-13)\text{or}15,13$

15. In a two digit number, the unit's digit exceeds it ten's digit by 2 and the product of the given number and the sum of its digits is equal to 52 . Find the number

(i) 24 (ii) 46 (iii) 13 (iv) 35

16. Find two natural numbers which differ by 19 and the sum of whose squares is 661

(i) $(5,24)$ (ii) $(4,22)$ (iii) $(7,26)$ (iv) $(8,28)$ (v) $(6,25)$

17. The sum of the squares of two consecutive odd numbers is 10. Find the numbers

(i) $(-6),(-4)\text{or}6,4$ (ii) $(-2),0\text{or}2,0$ (iii) $(-4),(-2)\text{or}4,2$ (iv) $0,2\text{or}0,(-2)$ (v) (-3) , (-1) or 3 , 1

18. A two digit number is such that the product of the digits is 0. When 54 is subtracted from the number, the digits are reversed. Find the number

(i) 60 (ii) 61 (iii) 63 (iv) 58 (v) 59

19. A can do a work in x days and B can do it in $(x-19)$ days.
Both of them working together can do it in 90 days. Calculate x

(i) 11 (ii) 7 (iii) 8 (iv) 10 (v) 9

20. The perimeter of a rectangular room is 104.00 m and the length of its diagonal is 39.40 m . Find the dimensions of the room

(i) 38.00 m , 14.00 m (ii) 37.00 m , 15.00 m (iii) 34.00 m , 18.00 m (iv) 36.00 m , 16.00 m

(v) 35.00 m , 17.00 m

21. Three consecutive natural numbers are such that the square of the middle number exceeds the difference of the squares of the other two by 165 . Find the three numbers.

(i) 16, 17, 18 (ii) 14, 15, 16 (iii) 13, 14, 15 (iv) 15, 16, 17 (v) 11, 12, 13

22. A stream flows from A to B, a distance of 10.00 km. A man who can row in still water at 10.00 kmph, can row up and down in 2.08 hr . What is the speed of the stream?

(i) 3.00 kmph (ii) 1.00 kmph (iii) 4.00 kmph (iv) 2.00 kmph (v) 0.00 kmph

23. Find the number which exceeds its reciprocal by $12\frac{12}{13}$

(i) 13 (ii) 10 (iii) 12 (iv) 16 (v) 14

24. The denominator of a fraction exceeds the numerator by 1.
The square of the fraction is equal to $\frac{16}{25}$. Find the fraction

(i) $\frac{4}{5}$ (ii) $\frac{4}{3}$ (iii) $\frac{4}{7}$ (iv) $\frac{6}{5}$ (v) $\frac{2}{5}$

25. A two digit number is such that the product of the digits is 12. When 36 is added to the number, the digits are reversed. Find the number

(i) 29 (ii) 26 (iii) 27 (iv) 25 (v) 24

Assignment Key

1) (i)	2) (v)	3) (iv)	4) (iii)	5) (ii)	6) (ii)
7) (ii)	8) (iv)	9) (ii)	10) (iii)	11) (i)	12) (i)
13) (iv)	14) (ii)	15) (iii)	16) (v)	17) (v)	18) (i)
19) (v)	20) (iv)	21) (ii)	22) (iv)	23) (i)	24) (i)
25) (ii)					