EduSahara™ Assignment

Name : Word Problems on Quadratic Equations

Chapter : Quadratic Equations

Grade : SSC Grade X

1. The product of two consecutive even numbers is 48. Find the numbers

   (i) -7 , -5 or 7 , 5 (ii) -5 , -3 or 5 , 3 (iii) -8 , -6 or 8,6 (iv) -9 , -7 or 9 , 7 (v) -11 , -9 or 11 , 9

2. If the difference of two numbers is 7 and their product is 44, find the numbers

   (i) $(-5),(-12)\text{ or }5,12$ (ii) $(-6),(-13)\text{ or }6,13$ (iii) $(-3),(-10)\text{ or }3,10$ (iv) $(-1),(-9)\text{ or }1,9$ (v) $(-4),(-11)\text{ or }4,11$

3. Find the number which exceeds its reciprocal by $17\frac{17}{18}$

   (i) 18 (ii) 17 (iii) 15 (iv) 21 (v) 19

4. The sum of the squares of two consecutive even numbers is 244. Find the numbers

   (i) (-12) , (-10) or 12 , 10 (ii) $(-11),(-9)\text{ or }11,9$ (iii) $(-9),(-8)\text{ or }9,8$ (iv) $(-13),(-11)\text{ or }13,11$

   (v) $(-14),(-12)\text{ or }14,12$

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

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

6. Find the number which is less than its square by 56

   (i) 9 (ii) 5 (iii) 8 (iv) 7 (v) 11

7. Twice the square of a number exceeds 5 times the number by 102. Find the number

   (i) (-5) (ii) (-7) (iii) (-8) (iv) (-6) (v) (-4)

8. The denominator of a fraction exceeds the numerator by 1.
   The square of the fraction is equal to $\frac{361}{400}$. Find the fraction

   (i) $\frac{21}{20}$ (ii) $\frac{19}{18}$ (iii) $\frac{19}{22}$ (iv) $\frac{19}{20}$ (v) $\frac{17}{20}$

9. 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 15 . Find the number

   (i) 37 (ii) 42 (iii) 40 (iv) 38 (v) 39

10. The perimeter of a rectangular room is 106.00 m and the length of its diagonal is 39.36 m . Find the dimensions of the room

    (i) 34.00 m , 19.00 m (ii) 37.00 m , 16.00 m (iii) 35.00 m , 18.00 m (iv) 36.00 m , 17.00 m

    (v) 33.00 m , 20.00 m

11. The area of a rectangular room is 152.00 sq.m. If the length and breadth are increased by 5 m, the area would become 567.00 sq.m. Find the original dimensions of the room

    (i) 7.00 m , 21.71 m (ii) 4.00 m , 38.00 m (iii) 8.00 m , 19.00 m (iv) 3.00 m , 50.67 m

    (v) 76.00 m , 2.00 m

12. A play field is 90.00 m by 80.00 m. It has a road all around it on the outside.
Find the width of the road if its area is $\frac{7}{6}$ of the area of the play field

(i) 21.00 m (ii) 22.00 m (iii) 19.00 m (iv) 20.00 m (v) 18.00 m

13. A stream flows from A to B, a distance of 13.00 km. A man who can row in still water at 7.00 kmph, can row up and down in 4.04 hr . What is the speed of the stream?

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

14. Find two natural numbers which differ by 6 and the sum of whose squares is 1268

(i) $(22,28)$ (ii) $(19,25)$ (iii) $(21,27)$ (iv) $(23,29)$ (v) $(24,31)$

15. 60 is divided into two parts such that the sum of their reciprocals is $\frac{5}{72}$.
Find the two parts

(i) $(26,34)$ (ii) $(25,35)$ (iii) $(23,37)$ (iv) $(24,36)$ (v) $(22,38)$

16. Three consecutive natural numbers are such that the square of the middle number exceeds the difference of the squares of the other two by 5 . Find the three numbers.

(i) 5, 6, 7 (ii) 3, 4, 5 (iii) 4, 5, 6 (iv) 2, 3, 4 (v) 7, 8, 9

17. 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) 35 (ii) 24 (iii) 46 (iv) 13

18. A two digit number is such that the product of the digits is 28. When 27 is subtracted from the number, the digits are reversed. Find the number

(i) 73 (ii) 75 (iii) 76 (iv) 71 (v) 74

19. The sum of the numerator and denominator of a fraction is 22.
If 8 is added to both the numerator and denominator,
the fraction is increased by $\frac{5}{24}$. Find the fraction

(i) $\frac{16}{6}$ (ii) $\frac{1}{2}$ (iii) $\frac{6}{16}$ (iv) $\frac{1}{4}$ (v) $\frac{3}{7}$

20. The sum of the ages of a father and his son is 54 years whereas five years ago, the product of their ages was 315. Find the current ages of the son and the father.

(i) 13 years , 41 years (ii) 16 years , 38 years (iii) 12 years , 42 years (iv) 14 years , 40 years

(v) 15 years , 39 years

21. 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 $6\frac{21}{34}$ days. Calculate x

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

22. One pipe can fill a cistern in 5 hours less than the other.
The two pipes together can fill it in 6 hrs.
Find the time that each pipe will take to fill the cistern.

(i) 7 hr , 13 hr (ii) 10 hr , 15 hr (iii) 9 hr , 14 hr (iv) 13 hr , 17 hr (v) 11 hr , 16 hr

Assignment Key

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