EduSahara™ Assignment

Name : Zeroes of a Quadratic Polynomial

Chapter : Polynomials

Grade : SSC Grade X

1. Which of the following are true?

   a) If (x + a) is a factor of f(x), then f(a) = 0
   b) Zero of a polynomial and zero polynomial are synonymous
   c) Zero of a polynomial and root of the polynomial are synonymous
   d) Zero of a polynomial is the value of the variable for which the polynomial value is zero
   e) If (x - a) is a factor of f(x), then f(a) = 0
   f) A linear polynomial in one variable has only one root
   g) A polynomial of degree n has atmost n zeros

   (i) {b,d} (ii) {a,f,g} (iii) {c,d,e,f,g} (iv) {a,c} (v) {a,b,e}

2. Which of the following are true?

   a) πr^2 is a monomial
   b) Degree of zero polynomial is zero
   c) Every polynomial is a binomial
   d) A binomial has two and only two terms
   e) A binomial may have degree 3

   (i) {c,d} (ii) {b,c,e} (iii) {b,a,d} (iv) {a,d,e} (v) {b,a}

3. If 5 and $(\frac{-1}{2})$ are the zeros of the polynomial $f(x) = 4x^4 + ax^3 + 30x^2 + bx - 10$, find the value of a and b

   (i) $-25, 2$ (ii) $-26, 3$ (iii) $3, -25$ (iv) $-26, 2$ (v) $1, -27$

4. If $\frac{2}{3}$ is the zero of the polynomial $f(x) = kx^2 - 12x + 4$, find k

   (i) 10 (ii) 9 (iii) 8 (iv) 12 (v) 7

5. Find the quadratic equation with roots $(\frac{9}{2}, \frac{9}{2})$

   (i) $(8x^2 - 54x + 81) = 0$ (ii) $(4x^2 - 32x + 63) = 0$ (iii) $(4x^2 - 40x + 99) = 0$ (iv) $(2x^2 - 27x + 81) = 0$

   (v) $(4x^2 - 36x + 81) = 0$

6. Find the quadratic equation with roots $((\frac{-4}{7}), \frac{3}{5})$

   (i) $(25x^2 + 5x - 12) = 0$ (ii) $(35x^2 + 9x - 18) = 0$ (iii) $(35x^2 - x - 12) = 0$ (iv) $(49x^2 + 7x - 12) = 0$

   (v) $(7x^2 - 3x - 4) = 0$

7. Find the quadratic equation with roots $(4,4)$

(i) $(x^2-6x+8)=0$ (ii) $(x^2-9x+20)=0$ (iii) $(x^2-8x+16)=0$ (iv) $(x^2-7x+12)=0$

(v) $(x^2-11x+28)=0$

8. Find the quadratic equation with roots $(-6,1)$

(i) $(x^2+6x-7)=0$ (ii) $(x^2+3x-18)=0$ (iii) $(x^2+8x-9)=0$ (iv) $(x^2+5x-6)=0$ (v) $(x^2+4x-12)=0$

9. The sum of the roots of the quadratic equation $(x^2+16x+64)=0$ is

(i) -16 (ii) -17 (iii) -13 (iv) -15 (v) -19

10. The sum of the roots of the quadratic equation $(x^2-4x-32)=0$ is

(i) 5 (ii) 4 (iii) 1 (iv) 7 (v) 3

11. The sum of the roots of the quadratic equation $(9x^2+36x+36)=0$ is

(i) -6 (ii) -4 (iii) -2 (iv) -5 (v) -3

12. The sum of the roots of the quadratic equation $(-8x^2+26x-18)=0$ is

(i) $\frac{15}{4}$ (ii) $\frac{19}{6}$ (iii) $\frac{13}{4}$ (iv) $\frac{11}{4}$ (v) $\frac{7}{2}$

13. The product of the roots of the quadratic equation $(x^2-8x+16)=0$ is

(i) 16 (ii) 15 (iii) 13 (iv) 18 (v) 17

14. The product of the roots of the quadratic equation $(x^2+12x+32)=0$ is

(i) 33 (ii) 31 (iii) 30 (iv) 32 (v) 35

15. The product of the roots of the quadratic equation $(64x^2+32x+4)=0$ is

(i) $\frac{1}{14}$ (ii) $\frac{1}{18}$ (iii) $\frac{1}{16}$ (iv) $\frac{3}{16}$ (v) $(\frac{-1}{16})$

16. The product of the roots of the quadratic equation $(81x^2-126x+48)=0$ is

(i) $\frac{2}{3}$ (ii) $\frac{14}{27}$ (iii) $\frac{16}{29}$ (iv) $\frac{16}{25}$ (v) $\frac{16}{27}$

17. Find the quadratic equation, the sum of whose roots is -4 and product is 4

(i) $(2x^2+4x+4)=0$ (ii) $(x^2+4x+4)=0$ (iii) $(x^2+6x+4)=0$ (iv) $(x^2+2x+4)=0$ (v) $(4x+4)=0$

18. Find the quadratic equation, the sum of whose roots is 11 and product is 30

(i) $(2x^2-11x+30)=0$ (ii) $(x^2-13x+30)=0$ (iii) $(-11x+30)=0$ (iv) $(x^2-11x+30)=0$

(v) $(x^2-9x+30)=0$

19. Find the quadratic equation, the sum of whose roots is $(\frac{-6}{7})$ and product is $\frac{9}{49}$

(i) $(48x^2+42x+9)=0$ (ii) $(49x^2+45x+9)=0$ (iii) $(49x^2+42x+9)=0$ (iv) $(50x^2+42x+9)=0$

(v) $(49x^2+40x+9)=0$

20. Find the quadratic equation, the sum of whose roots is $\frac{55}{28}$ and product is $\frac{25}{28}$

(i) $(28x^2-53x+25)=0$ (ii) $(28x^2-55x+25)=0$ (iii) $(28x^2-58x+25)=0$ (iv) $(27x^2-55x+25)=0$

(v) $(29x^2-55x+25)=0$

If p and q are the roots of $(x^2-49)=0$,

21. find the equation whose roots are $p+\frac{1}{q}$ and $q+\frac{1}{p}$

(i) $(49x^2+14x-2208)=0$ (ii) $(35x^2-12x-1728)=0$ (iii) $(21x^2-4x-960)=0$ (iv) $(49x^2-2304)=0$

(v) $(49x^2-14x-2208)=0$

22. If 9 is the root of $(x^2+kx+63)=0$, find k and the other root

(i) k=-18, and the other root $=4$ (ii) k=-17, and the other root $=6$ (iii) k=-15, and the other root $=8$

(iv) k=-16, and the other root $=7$ (v) k=-14, and the other root $=10$

23. Find the quadratic equation whose roots are $(5-3\sqrt{7})$ and $(5+3\sqrt{7})$

(i) $(-10x-38)=0$ (ii) $(x^2-10x-38)=0$ (iii) $(x^2-7x-38)=0$ (iv) $(x^2-13x-38)=0$

(v) $(2x^2-10x-38)=0$

Assignment Key

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