EduSahara™ Assignment

Name : Zeroes of a Quadratic Polynomial

Chapter : Polynomials

Grade : SSC Grade X

1. Which of the following are true?

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

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

2. Which of the following are true?

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

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

3. If 1 and $(\frac{-5}{2})$ are the zeros of the polynomial $f(x) = bx^4 + ax^3 - 132x^2 - 100x + 200$, find the value of a and b

   (i) $17, 16$ (ii) $16, 16$ (iii) $15, 15$ (iv) $16, 17$ (v) $17, 17$

4. If $\frac{3}{2}$ is the zero of the polynomial $f(x) = kx^2 - 5x - 6$, find k

   (i) 9 (ii) 3 (iii) 7 (iv) 5 (v) 6

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

   (i) $(25x^2 - 70x + 48) = 0$ (ii) $(5x^2 - 16x + 12) = 0$ (iii) $(25x^2 - 60x + 36) = 0$ (iv) $(25x^2 - 50x + 24) = 0$

   (v) $(35x^2 - 72x + 36) = 0$

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

   (i) $(3x^2 - x - 4) = 0$ (ii) $(5x^2 - 13x - 28) = 0$ (iii) $(15x^2 + x - 28) = 0$ (iv) $(15x^2 + 11x - 14) = 0$

7. Find the quadratic equation with roots $(6, 6)$

   (i) $(x^2 - 12x + 36) = 0$ (ii) $(x^2 - 13x + 42) = 0$ (iii) $(x^2 - 11x + 30) = 0$ (iv) $(x^2 - 10x + 24) = 0$

   (v) $(x^2 - 15x + 54) = 0$

8. Find the quadratic equation with roots $(5, -6)$

(i) $(x^2+3x-18)=0$ (ii) $(x^2+2x-24)=0$ (iii) $(x^2+x-30)=0$ (iv) $(x^2-x-20)=0$ (v) $(x^2-25)=0$

9. The sum of the roots of the quadratic equation $(x^2-18x+81)=0$ is

(i) 18 (ii) 17 (iii) 19 (iv) 21 (v) 16

10. The sum of the roots of the quadratic equation $(x^2-3x-18)=0$ is

(i) 5 (ii) 2 (iii) 3 (iv) 1 (v) 4

11. The sum of the roots of the quadratic equation $(81x^2+72x+16)=0$ is

(i) $(\frac{-8}{7})$ (ii) $(\frac{-8}{9})$ (iii) $(\frac{-2}{3})$ (iv) $(\frac{-10}{9})$ (v) $(\frac{-8}{11})$

12. The sum of the roots of the quadratic equation $(4x^2-2x-12)=0$ is

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

13. The product of the roots of the quadratic equation $(x^2-6x+9)=0$ is

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

14. The product of the roots of the quadratic equation $(x^2-6x+5)=0$ is

(i) 5 (ii) 7 (iii) 3 (iv) 6 (v) 4

15. The product of the roots of the quadratic equation $(81x^2+108x+36)=0$ is

(i) $\frac{4}{11}$ (ii) $\frac{2}{3}$ (iii) $\frac{4}{9}$ (iv) $\frac{4}{7}$ (v) $\frac{2}{9}$

16. The product of the roots of the quadratic equation $(-14x^2-30x-4)=0$ is

(i) $\frac{2}{9}$ (ii) $\frac{2}{7}$ (iii) $\frac{4}{7}$ (iv) $\frac{2}{5}$ (v) 0

17. Find the quadratic equation, the sum of whose roots is -14 and product is 49

(i) $(x^2+12x+49)=0$ (ii) $(x^2+14x+49)=0$ (iii) $(2x^2+14x+49)=0$ (iv) $(x^2+17x+49)=0$

(v) $(14x+49)=0$

18. Find the quadratic equation, the sum of whose roots is 2 and product is -3

(i) $(-2x-3)=0$ (ii) $(x^2-3)=0$ (iii) $(x^2-4x-3)=0$ (iv) $(x^2-2x-3)=0$ (v) $(2x^2-2x-3)=0$

19. Find the quadratic equation, the sum of whose roots is $(\frac{-2}{3})$ and product is $\frac{1}{9}$

(i) $(9x^2+6x+1)=0$ (ii) $(9x^2+3x+1)=0$ (iii) $(9x^2+8x+1)=0$ (iv) $(8x^2+6x+1)=0$

(v) $(10x^2+6x+1)=0$

20. Find the quadratic equation, the sum of whose roots is $\frac{17}{18}$ and product is $\frac{7}{54}$

(i) $(54x^2-48x+7)=0$ (ii) $(54x^2-51x+7)=0$ (iii) $(55x^2-51x+7)=0$ (iv) $(54x^2-53x+7)=0$

(v) $(53x^2-51x+7)=0$

If p and q are the roots of $(x^2+10x+16)=0$,

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

(i) $(16x^2+170x+289)=0$ (ii) $(16x^2+166x+255)=0$ (iii) $(16x^2+186x+323)=0$

(iv) $(8x^2+89x+153)=0$ (v) $(20x^2+212x+357)=0$

22. If 1 is the root of $(x^2+kx-5)=0$, find k and the other root

(i) $k=3$, and the other root = -6 (ii) $k=6$, and the other root = -3 (iii) $k=5$, and the other root = -4

(iv) $k=2$, and the other root = -7 (v) $k=4$, and the other root = -5

23. Find the quadratic equation whose roots are $(1+6\sqrt{2})$ and $(1-6\sqrt{2})$

(i) $(x^2-5x-71)=0$ (ii) $(x^2-2x-71)=0$ (iii) $(x^2+x-71)=0$ (iv) $(2x^2-2x-71)=0$ (v) $(-2x-71)=0$

Assignment Key

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