

EduSahara™ Learning Center Assignment**Grade : Class X, SSC****Chapter : Polynomials****Name : Zeroes of a Quadratic Polynomial**

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) A polynomial of degree n has at most n zeros
 - c) If $(x - a)$ is a factor of $f(x)$, then $f(a) = 0$
 - d) Zero of a polynomial and root of the polynomial are synonymous
 - e) If $(x + a)$ is a factor of $f(x)$, then $f(a) = 0$
 - f) Zero of a polynomial and zero polynomial are synonymous
 - g) A linear polynomial in one variable has only one root
- (i) {e,d,g} (ii) {a,b,c,d,g} (iii) {e,f,c} (iv) {f,b} (v) {e,a}

2. Which of the following are true?

- a) Every polynomial is a binomial
 - b) A binomial may have degree 3
 - c) A binomial has two and only two terms
 - d) Degree of zero polynomial is zero
 - e) πr^2 is a monomial
- (i) {b,c,e} (ii) {a,d,e} (iii) {a,b} (iv) {d,c} (v) {a,b,c}

If 3 and -4 are the zeros of the polynomial

3. $f(x) = ax^4 + bx^3 - 24x^2 - 158x - 120$, find the value of a and b

- (i) 19, 5
- (ii) 5, 18
- (iii) 17, 3
- (iv) 4, 19
- (v) 4, 18

4. If $(\frac{-4}{3})$ is the zero of the polynomial $f(x) = 6x^2 + 17x + k$, find k

- (i) 11 (ii) 12 (iii) 15 (iv) 13 (v) 9

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

- (i) $(3x^2 + 20x + 25) = 0$
- (ii) $(9x^2 + 36x + 35) = 0$

$$(iii) \quad (3x^2 + 8x + 5) = 0$$

$$(iv) \quad (9x^2 + 30x + 25) = 0$$

6. Find the quadratic equation with roots $(\frac{-6}{5}), (\frac{-9}{7})$

$$(i) \quad (7x^2 + 23x + 18) = 0$$

$$(ii) \quad (35x^2 + 101x + 72) = 0$$

$$(iii) \quad (5x^2 + 11x + 6) = 0$$

$$(iv) \quad (35x^2 + 87x + 54) = 0$$

7. Find the quadratic equation with roots $(9, 9)$

$$(i) \quad (x^2 - 18x + 81) = 0$$

$$(ii) \quad (x^2 - 19x + 90) = 0$$

$$(iii) \quad (x^2 - 17x + 72) = 0$$

$$(iv) \quad (x^2 - 21x + 108) = 0$$

$$(v) \quad (x^2 - 16x + 63) = 0$$

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

$$(i) \quad (x^2 + 2x - 24) = 0$$

$$(ii) \quad (x^2 - 36) = 0$$

$$(iii) \quad (x^2 - 2x - 35) = 0$$

$$(iv) \quad (x^2 - 4x - 21) = 0$$

$$(v) \quad (x^2 - x - 42) = 0$$

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

- (i) 7 (ii) 9 (iii) 8 (iv) 5 (v) 10
-

10. The sum of the roots of the quadratic equation $(x^2 - 7x + 6) = 0$ is

- (i) 6 (ii) 5 (iii) 9 (iv) 7 (v) 8
-

11. The sum of the roots of the quadratic equation $(36x^2 + 60x + 25) = 0$ is

- (i) $(-\frac{7}{5})$ (ii) -3 (iii) -1 (iv) $(-\frac{5}{3})$ (v) $(-\frac{7}{3})$
-

12. The sum of the roots of the quadratic equation $(-72x^2 + 66x - 12) = 0$ is

- (i) $\frac{11}{10}$ (ii) $\frac{3}{4}$ (iii) $\frac{13}{12}$ (iv) $\frac{11}{12}$ (v) $\frac{11}{14}$
-

13. The product of the roots of the quadratic equation $(x^2 - 2x + 1) = 0$ is

- (i) -1 (ii) 0 (iii) 1 (iv) 2 (v) 4
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14. The product of the roots of the quadratic equation $(x^2 - 14x + 48) = 0$ is

- (i) 51 (ii) 48 (iii) 46 (iv) 47 (v) 49
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15. The product of the roots of the quadratic equation $(25x^2 + 40x + 16) = 0$ is

- (i) $\frac{14}{25}$ (ii) $\frac{16}{23}$ (iii) $\frac{16}{25}$ (iv) $\frac{18}{25}$ (v) $\frac{16}{27}$
-

16. The product of the roots of the quadratic equation $(48x^2 + 6x - 42) = 0$ is

- (i) $(-\frac{9}{8})$ (ii) $(-\frac{7}{8})$ (iii) $(-\frac{7}{10})$ (iv) $(-\frac{5}{8})$ (v) $(-\frac{7}{6})$
-

17. Find the quadratic equation, the sum of whose roots is 2 and product is 1

(i) $(2x^2 - 2x + 1) = 0$

(ii) $(-2x + 1) = 0$

(iii) $(x^2 - 4x + 1) = 0$

(iv) $(x^2 - 2x + 1) = 0$

$$(v) \quad (x^2 + x + 1) = 0$$

18. Find the quadratic equation, the sum of whose roots is 7 and product is 6

$$(i) \quad (2x^2 - 7x + 6) = 0$$

$$(ii) \quad (x^2 - 10x + 6) = 0$$

$$(iii) \quad (-7x + 6) = 0$$

$$(iv) \quad (x^2 - 4x + 6) = 0$$

$$(v) \quad (x^2 - 7x + 6) = 0$$

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

$$(i) \quad (-4x + 4) = 0$$

$$(ii) \quad (2x^2 - 4x + 4) = 0$$

$$(iii) \quad (x^2 - x + 4) = 0$$

$$(iv) \quad (x^2 - 6x + 4) = 0$$

$$(v) \quad (x^2 - 4x + 4) = 0$$

20. Find the quadratic equation, the sum of whose roots is $\frac{7}{4}$ and product is $\frac{3}{4}$

$$(i) \quad (-7x^2 + 14x - 6) = 0$$

$$(ii) \quad (-9x^2 + 14x - 6) = 0$$

$$(iii) \quad (-8x^2 + 17x - 6) = 0$$

$$(iv) \quad (-8x^2 + 14x - 6) = 0$$

$$(v) \quad (-8x^2 + 11x - 6) = 0$$

21. If p and q are the roots of $(x^2 - 12x + 35) = 0$,

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

(i) $(25x^2 - 310x + 936) = 0$ (ii) $(49x^2 - 602x + 1800) = 0$

(iii) $(35x^2 - 422x + 1224) = 0$ (iv) $(35x^2 - 446x + 1368) = 0$

(v) $(35x^2 - 432x + 1296) = 0$

22. If 5 is the root of $(x^2 + kx - 35) = 0$, find k and the other root

(i) $k = 2$, and the other root = -7

(ii) $k = -1$, and the other root = -10

(iii) $k = 5$, and the other root = -5

(iv) $k = 3$, and the other root = -6

(v) $k = 1$, and the other root = -8

23. Find the quadratic equation whose roots are $(6 - 2\sqrt{7})$ and $(6 + 2\sqrt{7})$

(i) $(2x^2 - 12x + 8) = 0$ (ii) $(x^2 - 12x + 8) = 0$

(iii) $(-12x + 8) = 0$ (iv) $(x^2 - 10x + 8) = 0$

(v) $(x^2 - 14x + 8) = 0$

Assignment Key

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