POLYNOMIALS

MCQs & A and R WORK SHEET

Test / Exam Name: Polynomials **Standard: 10th** **Subject: Mathematics**

Student Name: ..... **Section:** ..... **Roll No.:** .....

Questions: 35 **Time: 01:00 hh:mm** **Negative Marks: 0** **Marks: 35**

Instructions

1. MULTIPLE CHOICE QUESTIONS.

Q1. A polynomial of degree ..... is called a quadratic polynomial: **1 Mark**

A 1 **B** 3 **C** 0 **D** 2

Ans: D 2

Solution:

A polynomial of degree two is called a quadratic polynomial. An equation involving a quadratic polynomial is called a quadratic equation. A quadratic equation is an equation that can be written in the form $ax^2 + bx + c = 0$, where $a \neq 0$.

Q2. If α and β are the zeroes of a quadratic polynomial $ax^2 + bx + c$, then $\alpha + \beta =$ **1 Mark**

A $\frac{c}{a}$ **B** $\frac{b}{a}$ **C** $\frac{-b}{a}$ **D** $\frac{-c}{a}$

Ans: C $\frac{-b}{a}$

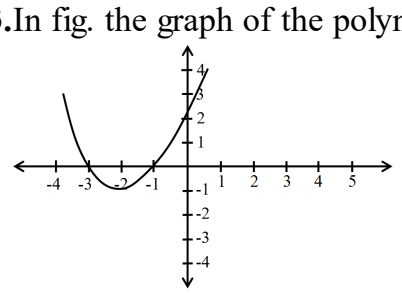
Solution:

If α and β are the zeroes of a quadratic polynomial $ax^2 + bx + c$,

$\because$ Sum of the zeroes of a quadratic polynomial $ax^2 + bx + c$

$= \frac{\text{-(Coe f ficient of x)}}{\text{Coe f ficient of } x^2}$ then $\alpha + \beta = \frac{-b}{a}$

Q3. In fig. the graph of the polynomial p(x) is given. The number of zeroes of the polynomial is: **1 Mark**



A 1 **B** 2 **C** 3 **D** 0

Ans: B 2

Solution:

The number of zeroes is 2 as the graph intersects the x-axis at 2 points.

Q4. If α and β are zeros of $x^2 + 5x + 8$, then the value of $(\alpha + \beta)$ is: **1 Mark**

A 8 **B** 5 **C** -5 **D** -8

Ans: C -5

Solution:

$x^2 + 5x + 8$

$\alpha + \beta = \frac{\text{Coefficient of x}}{\text{Coefficient of } x^2}$

$= \frac{-5}{1} = -5$

Q5. If α and β are the zeroes of the polynomial $2x^2 + 5x + 1$, then the value of $\alpha + \beta + \alpha\beta$ is: **1 Mark**

A -2 **B** 1 **C** -1 **D** 3

Ans: A -2

Solution:

Let α, β are the zeroes of the given polynomial.

Since $\alpha + \beta + \alpha\beta$

$= \frac{-b}{a} + \frac{c}{a} = \frac{-b+c}{a}$

$\therefore \alpha + \beta + \alpha\beta = \frac{-5+1}{2}$

$= \frac{-4}{2}$

$= -2$

Q6. If α and β are the zeroes of the polynomial $3x^2 + 11x - 4$, then the value of $\alpha^2 + \beta^2$ is: **1 Mark**

A $\frac{145}{9}$ **B** $\frac{150}{9}$ **C** $\frac{152}{9}$ **D** $\frac{144}{9}$

Ans: A $\frac{145}{9}$

Solution:

Here a = 3, b = 11, c = -4

Since $\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta$

$= (\frac{b}{a})^2 - 2 \times \frac{c}{a} = \frac{b^2}{a^2} - \frac{2c}{a} = \frac{b^2 - 2ac}{a^2}$

Putting the values of a, b and c, we get

$= \frac{(11)^2 - 2 \times 3 \times (-4)}{(3)^2}$

$= \frac{121 + 24}{9}$

$= \frac{145}{9}$

Q7. If α and β are the zeroes of the polynomial ax2 + bx + c, then the values of $\frac{\alpha}{\beta} + \frac{\beta}{\alpha}$ is: **1 Mark**

A $\frac{b^2}{ac}$ **B** $\frac{c^2}{ab}$ **C** $\frac{b^2 - 2ac}{ac}$ **D** $\frac{a^2}{bc}$

Ans: C $\frac{b^2 - 2ac}{ac}$

Solution:

Since $= \frac{\alpha^2 + \beta^2}{\alpha\beta}$

$= \frac{(\alpha + \beta)^2 - 2\alpha\beta}{\alpha\beta}$

$= \frac{(\frac{-b}{a})^2 - 2 \times \frac{c}{a}}{\frac{c}{a}}$

$= \frac{b^2 - 2ac}{a^2} \times \frac{a}{c}$

$= \frac{b^2 - 2ac}{ac}$

Q8. if α and β are the zeroes of the polynomial $3x^2 + 11x - 4$, then the value of $\frac{1}{\alpha} + \frac{1}{\beta}$ is: **1 Mark**

A $\frac{11}{4}$ **B** $\frac{12}{4}$ **C** $\frac{13}{4}$ **D** $\frac{15}{4}$

Ans: A $\frac{11}{4}$

Solution:

Here a = 3, b = 11, c = -4,

Since $\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta}$

$\alpha + \beta = \frac{-11}{3}, \alpha\beta = \frac{-4}{3}$

So $\frac{\frac{-11}{3}}{\frac{-4}{3}} = \frac{11}{4}$

Q9. If the zeroes of the quadratic polynomial $x^2 + (a + 1) x + b$ are 2 and -3, then: **1 Mark**

A a = 2, b = –6 **B** a = -7, b = -1 **C** a = 0, b = -6 **D** a = 5, b = -1

Ans: C a = 0, b = -6

Solution:

Zeroes of a polynomial are the values of x at which the polynomial is equal to zero.

2 and -3 are the zeroes of the polynomial $p(x) = x^2 + (a + 1) x + b$

i.e. p(2) = 0 and p(-3) = 0

$p(2) = (2)^2 + (a + 1) (2) + b = 0$

? 4 + 2a + 2 + b = 0

? 6 + 2a + b = 0 ...(1)

$P(-3) = (-3)^2 + (a + 1) (-3) + b = 0$

? 9 - 3a - 3 + b = 0

? 6 - 3a + b = 0 ...(2)

Equating (1) and (2), as both the equations are equal to zero.

∴ 6 + 2a + b = 6 - 3a + b

? 5a = 0

? a = 0

Putting the value of 'a' in (1)

6 + 2 (0) + b = 0

? b = -6

Q10. If α, β are the zeros of polynomial $f(x) = x^2 - p(x + 1) - c$, then $(\alpha + 1)(\beta + 1) =$ **1 Mark**

A c - 1 **B** 1 - c **C** c **D** 1 + c

Ans: B 1 - c

Solution:

Since α and β are the zeros of quadratic polynomial

$f(x) = x^2 - p(x + 1) - c$

$= x^2 - px - p - c$

$\alpha + \beta = \frac{-\text{Coefficient of } x}{\text{Coefficient of } x^2}$

$= -\left(\frac{-p}{1}\right)$

$= p$

$\alpha \times \beta = \frac{\text{Constant term}}{\text{Coefficient of } x^2}$

$= \frac{-p-c}{1}$

We have

$(\alpha + 1)(\beta + 1)$

$= \alpha\beta + \beta + \alpha + 1$

$= \alpha\beta + (\alpha + \beta) + 1$

$= -p - c + (p) + 1$

$= -p - c + p + 1$

$= -c + 1$

$= 1 - c$

The value of $(\alpha + 1)(\beta + 1)$is 1 - c

Hence, the correct choice is (b)

Q11. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of 'k' is: **1 Mark**

A 10 **B** -5 **C** -10 **D** 5

Ans: C -10

Solution:

Given Polynomial is $p(x) = x^2 + 3x + k$

According to question, p(x) = 0 (Put x = 2) p(2) = 0

? $(2)^2 + 3 \times 2 + k = 0$

? 4 + 6 + k = 0

? k = -10

Q12. The zeroes of the quadratic polynomial $x^2 + 99x + 127$ are: **1 Mark**

A Both equal **B** Both positive **C** One positive and one negative

D Both negative

Ans: D Both negative

Solution:

As the Discriminant of the given quadratic polynomial $x^2 + 99x + 127$ is less than Zero.

∴ Both the zeros are negative.

Q13. The zeroes of a polynomial $x^2 - 7x + 12$ are: **1 Mark**

A One positive and one negative **B** Both equal **C** Both positive

D Both negative

Ans: C Both positive

Solution:

$x^2 - 7x + 12$

$= x^2 - 4x - 3x + 12 = 0$

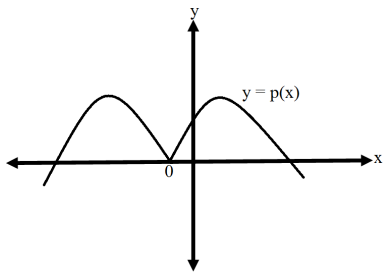
$= x(x - 4) - 3 (x - 4) = 0$

$= (x - 4) (x - 3) = 0$

∴ x - 4 = 0 or x - 3 = 0

? x = 4 or x = 3

Q14. The number of zeroes for a polynomial p(x) where graph of y = p(x) is given in Figure, is: **1 Mark**



A 3 **B** 4 **C** 0 **D** 5

Ans: A 3

1. 3

Q15. A real number k is said to be a zero of a polynomial p(x), if p(k) = **1 Mark**

A 2 **B** 3 **C** 1 **D** 0

Ans: D 0

Explanation: if P(x) is a polynomial in x and k is any real number, then the value of P(k) at x = k is denoted by P(k) is found by replacing x by k in P(x).

e.g., In the polynomial x^2 - 3x + 2,

Replacing x by 1 gives,

P(1) = 1 - 3 + 2 = 0

Similarly, replacing x by 2 gives,

P(2) = 4 - 6 + 2 = 0

For a polynomial P(x), real number k is said to be zero of polynomial P(x), if P(k) = 0.

Q16. The number of zeroes of a cubic polynomial is: **1 Mark**

A At most 3 **B** At least 3 **C** 2 **D** 3

Ans: A At most 3

Solution:

The number of zeroes of a cubic polynomial is at most 3 because the highest power of the variable in cubic polynomial is 3, i.e. $ax^3 + bx^2 + cx + d$.

Q17. A quadratic polynomial whose product and sum of zeroes are $\frac{1}{3}$ and $\sqrt{2}$ respectively is: **1 Mark**

A $3x^2 + x - 3\sqrt{2}x$ **B** $3x^2 - x + 3\sqrt{2}x$ **C** $3x^2 + 3\sqrt{2}x + 1$ **D** $3x^2 - 3\sqrt{2}x + 1$

Ans: D $3x^2 - 3\sqrt{2}x + 1$

Solution:

Given: $\boldsymbol{\alpha + \beta = \frac{\sqrt{2}}{1} = \frac{(-\sqrt{2})}{1} = \frac{(-3\sqrt{2})}{3}}$

And $\boldsymbol{\alpha\beta = \frac{c}{a} = \frac{1}{3}}$ on comparing, we get a = 3, b = $-3\sqrt{2}$, c = 1

Putting these values in the general form of a quadratic polynomial $ax^2 + bx + c$, we have

$3x^2 - 3\sqrt{2} + 1$

Q18. If α and β are the zeroes of a quadratic polynomial x^2 - 5x + b and $\alpha - \beta = 1$ then the value of b is: **1 Mark**

A -5 **B** 5 **C** 6 **D** -6

Ans: C 6

Explanation: Here $\boldsymbol{\alpha + \beta = \frac{-b}{a} = \frac{-(-5)}{1}}$

$\alpha + \beta = 5$. . . (i)

And it is given that $\alpha - \beta = 1$. . . (ii)

On solving eq.(i) and eq.(ii), we get

$\alpha + \beta = 5$

$\alpha - \beta = 1$

2a = 6(β is canclled)

$\alpha = \frac{6}{2}$

α = 3 put the value of α in eq.(i)

$\alpha + \beta = 5$

$\Rightarrow 3 + \beta = 5$

$\Rightarrow \beta = 5 - 3$

$\Rightarrow \beta = 2$

$\therefore \alpha\beta = \frac{c}{a}$

$\Rightarrow 3 \times 2 = \frac{b}{1}$

$\Rightarrow b = 6$

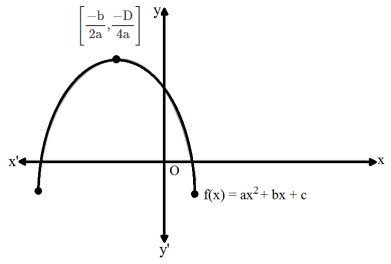
Q19. If one zero of the polynomial $p(x) = (k + 4)\, x^2 + 13x + 3k$ is reciprocal of the other, then the value of k is: **1 Mark**

A 5 **B** 2 **C** 3 **D** 4

Ans: B 2

2. 2

Q20. Fig. show the graph of the polynomial $f(x) = ax^2 + bx + c$ for which: **1 Mark**



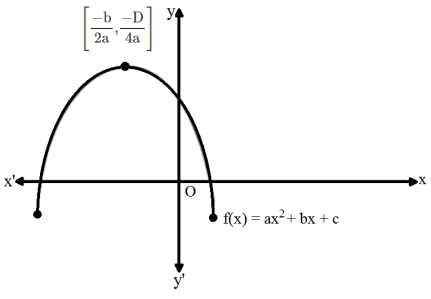
A $a < 0, b > 0$ and $c > 0$ **B** $a < 0, b < 0$ and $c > 0$ **C** $a < 0, b < 0$ and $c < 0$ **D** $a > 0, b > 0$ and $c < 0$

Ans: B $a < 0, b < 0$ and $c > 0$

Solution:

Clearly, $f(x) = ax^2 + bx + c$ represent a parabola opening downwards. Therefore, $a < 0$ $y = ax2 + bx + c$ cuts *y*-axis at P which lies on OY. Putting $x = 0$ in $y = ax^2 + bx + c$, we get $y = c$. So the coordinates P are (0, c). Clearly, P lies on OY. Therefore $c > 0$

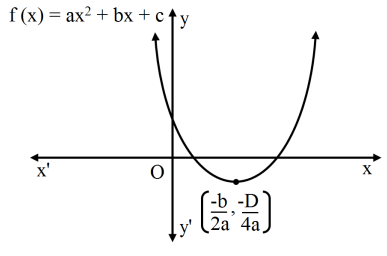
The vertex $\left(\frac{-b}{2a}, \frac{-D}{4a}\right)$ of the parabola is in the second quadrant. Therefore $\frac{-b}{2a} < 0, b < 0$



Therefore $a < 0$, $b < 0$, and $c > 0$

Hence, the correct choice is (b)

Q21. Figure show the graph of the polynomial $f(x) = ax^2 + bx + c$ for which: **1 Mark**



A $A < 0, b < 0$ and $c < 0$ **B** $A > 0, b < 0$ and $c > 0$ **C** $A < 0, b > 0$ and $c > 0$ **D** $A > 0, b > 0$ and $c < 0$

Ans: B $A > 0, b < 0$ and $c > 0$

Solution:

Clearly, $f(x) = ax^2 + bx + c$ represent a parabola opening upwards.

$\therefore$ $A > 0$ The vertex of the parabola is in the fourth quadrant,

$\therefore$ $B < 0$ $y = ax^2 + bx + c$ cuts Y axis at P which lies on OY.

Putting $x = 0$ in $y = ax^2 + bx + c$ we get $y = c$.

So the coordinates of P is (0, c).

Clearly, P lies on OY.

? $C > 0$

$A > 0, b < 0$ and $c > 0$

Q22. If α, β are the zeros of the polynomial $f(x) = x^2 - p(x + 1) - c$ such that $(\alpha + 1)(\beta + 1) = 0$, then c = **1 Mark**

A 1 **B** 0 **C** -1 **D** 2

Ans: A 1

Solution:

Since α and β are the zeros of quadratic polynomial

$f(x) = x^2 - p(x + 1) - c$

$f(x) = x^2 - px - p - c$

$\alpha + \beta = \frac{-\text{Coefficient of } x}{\text{Coefficient of } x^2}$

$= -\left(\frac{-p}{1}\right)$

$= p$

$\alpha\beta = \frac{-\text{Constant term}}{\text{Coefficient of } x^2}$

$= \frac{-p-c}{1}$

$= -p-c$

We have

$0 = (\alpha + 1)(\beta + 1)$

$0 = \alpha\beta + (\alpha + \beta) + 1$

$0 = -p - c + p + 1$

$0 = -c + 1$

$c = 1$

Hence, the correct alternative is (a)

Q23. The zeroes of the polynomial $x^2 - 3x - m(m + 3)$ are: **1 Mark**

A m, m + 3 **B** –m, m + 3 **C** m, – (m + 3) **D** –m, – (m + 3)

Ans: B –m, m + 3

Solution:

Given: equation $x^2 - 3x - m(m + 3) = 0$,

where m is a constant

To find the roots of the equation

The given equation is of form $ax^2 + bx + c = 0$

$\therefore$ a = 1, b = -3, c = -m(m + 3)

We know the roots of the equation can be find out using the formula,

$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$

Substituting the values of a, b, c, we get

$x = \frac{-(-3) \pm \sqrt{(-3)^2-4(1)(-m(m+3)}}{2}$

$\Rightarrow x = \frac{3 \pm \sqrt{9+4m^2+12m}}{2}$

$\Rightarrow x = \frac{3 \pm (2m+3)}{2}$

or $x = \frac{3+(2m+3)}{2}$, $x = \frac{3-(2m+3)}{2}$

? x = m + 3, x = -m are the required roots of the equation.

Q24. The number of polynomials having zeroes -2 and 5 is: **1 Mark**

A 1 **B** 2 **C** 3 **D** More than 3

Ans: D More than 3

Solution:

Polynomials having zeros -2 and 5 will be of the form

$p(x) = a(x + 2)^n(x - 5)^m$

Here, n and m can take any value from 1, 2, 3, ...

Thus, the number of polynomials will be more than 3.

Hence, the correct answer is option (d)

Q25. Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: The graph of a quadratic polynomial P(x) intersects the x - axis at two points.

Reason: The graph of a quadratic polynomial is a parabola.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false. **D** Assertion (A) is false but reason (R) is true.

Ans: B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

2. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

Q26. Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: Degree of the polynomial $5x^2 + 3x + 4$ is 2.

Reason: The degree of a polynomial of one variable is the highest value of the exponent of the variable.

A Both Assertion and Reason are correct and Reason is the correct explanation for Assertio

B Both Assertion and Reason are correct, but Reason is not the correct explanation for Assertion

C Assertion is correct but Reason is incorrect

D Assertion is incorrect but Reason is correct

Ans: A Both Assertion and Reason are correct and Reason is the correct explanation for Assertio

Solution:

By definition of degree of a polynomial in one variable is the highest value of the exponent of the variable.

Here, $5x^2 + 3x + 4$ is a polynomial in x, which has 2 as the highest power.

Therefor the degree is 2.

Q27. Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: $(a^2 - b^2) = (a - b)(a + b)$.

Reason: $(5^2 - 4^2) = 9$

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Ans: A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

1. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

Q28.Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: x^3+x has only one real zero.

Reason: A polynomial of nth degree must have n real zeroes.true.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is

Ans: C Assertion (A) is true but reason (R) is false.

3. Assertion (A) is true but reason (R) is false.

Q29. Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: $x^2 + 4x + 5$ has two zeroes.

Reason: A quadratic polynomial can have at the most two zeroes.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

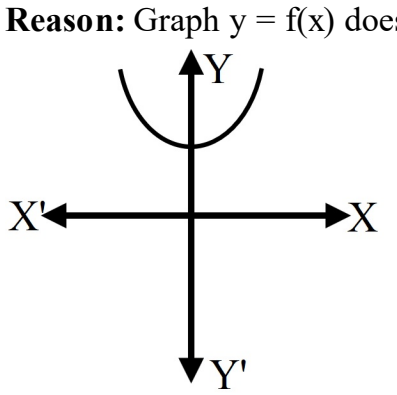
Ans: D Assertion (A) is false but reason (R) is true.

4. Assertion (A) is false but reason (R) is true.

Q30.Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: The graph of $y = f(x)$ is given, number of zeroes of $f(x) = 0$.

Reason: Graph $y = f(x)$ does not intersect x - axis.



1. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

2. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
3. Assertion (A) is true but reason (R) is false.
4. Assertion (A) is false but reason (R) is true.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Ans: A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

1. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

Q31. Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: A quadratic polynomial, sum of whose zeroes is 8 and their product is 12 is $x^2 - 20x + 96$.

Reason: If α and β be the zeroes of the polynomial f(x), then polynomial is given by $f(x) = x^2 - (\alpha + \beta)x + \alpha\beta$.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Ans: D Assertion (A) is false but reason (R) is true.

Solution:

Reason is correct.

If α and β be the zeroes of the required polynomial f(x),

then, $(\alpha + \beta) = 8$ and $\alpha\beta = 12$

$\therefore f(x) = x^2 - (\alpha + \beta)x + \alpha\beta$

$\Rightarrow f(x) = x^2 - 8x + 12$

So, Assertion is not correct

Q32. Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: If the sum of the zeroes of the quadratic polynomial $x^2 - 2kx + 8$ is 2 then value of k is 1.

Reason: Sum of zeroes of a quadratic polynomial $ax^2 + bx + c$ is $\frac{-b}{a}$.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Ans: A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

1. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

Q33. Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: -1 & -4 are the zeroes of polynomial $x^2 - 3x - 4$.

Reason: A real number k is said to be a zero of polynomial P(x) if P(K) = 0.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Ans: A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

1. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

Q34. Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: $\mathbf{3 - 2\sqrt{5}}$ **is one zero of the quadratic polynomial then other zero willbe** $\mathbf{3 + 2\sqrt{5}}$**.**

Reason: Irrational zeros (roots) always occurs in pairs.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Ans: A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

Solution:

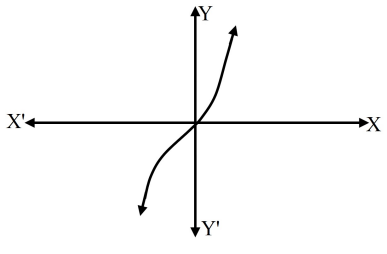
Asirrational roots/ zeros always occurs in pairs therefore, when one zero is $\mathbf{3-2\sqrt{5}}$ then other willbe $\mathbf{3+2\sqrt{5}}$.

So, both A and Rare correct and Rexplains A.

Q35.Directions: In the following questions, the Assertions (A) and Reason(s) (R) have been put forward. Read both the statements carefully and choose the correct alternative from the following: **1 Mark**

Assertion: The graph of y =f(x) is given below. Number of zeroes of F(x) = 1.

Reason: Graph of y = f(x) intersect x - axis in one point only.



1. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
2. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
3. Assertion (A) is true but reason (R) is false.
4. Assertion (A) is false but reason (R) is true.

A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

B Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

C Assertion (A) is true but reason (R) is false.

D Assertion (A) is false but reason (R) is true.

Ans: A Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

1. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).