EduSahara™ Assignment

Name : Determining Zeros of Polynomials using Graphs

Chapter : Polynomials

Grade : CBSE Grade X

1. Find the table of points that satisfy the parabola equation $y = x^2$

(i)

x	-2	-1	0	1	2
y	4	1	0	1	4

(ii)

x	-2	-1	0	0	2
y	4	1	0	2	4

(iii)

x	-2	-1	1	1	2
y	4	1	-1	1	4

(iv)

x	-2	-1	-2	1	2
y	4	1	-2	1	4

(v)

x	-2	-1	0	1	4
y	4	1	0	1	6

2. Find the table of points that satisfy the parabola equation $y = (-4x^2)$

(i)

x	-2	-1	0	0	2
y	-16	-4	0	-3	-16

(ii)

x	-2	-1	0	1	2
y	-16	-4	0	-4	-16

(iii)

x	-2	-1	0	1	4
y	-16	-4	0	-4	-14

(iv)

x	-2	-1	1	1	2
y	-16	-4	-1	-4	-16

(v)

x	-2	-1	-2	1	2
y	-16	-4	-2	-4	-16

3. Find the table of points that satisfy the parabola equation $y = (2x^2 + 12x + 10)$

(i)

x	-2	-1	0	0	2
y	-6	0	10	25	42

(ii)

x	-2	-1	0	1	2
y	-6	0	10	24	42

(iii)

x	-2	-1	0	1	4
y	-6	0	10	24	44

(iv)

x	-2	-1	-2	1	2
y	-6	0	8	24	42

(v)

x	-2	-1	1	1	2
y	-6	0	9	24	42

4. Find the table of points that satisfy the parabola equation $y = (-6x^2 - 15x - 9)$

(i)

x	-2	-1	-2	1	2
y	-3	0	-11	-30	-63

(ii)

x	-2	-1	0	1	2
y	-3	0	-9	-30	-63

(iii)

x	-2	-1	1	1	2
y	-3	0	-10	-30	-63

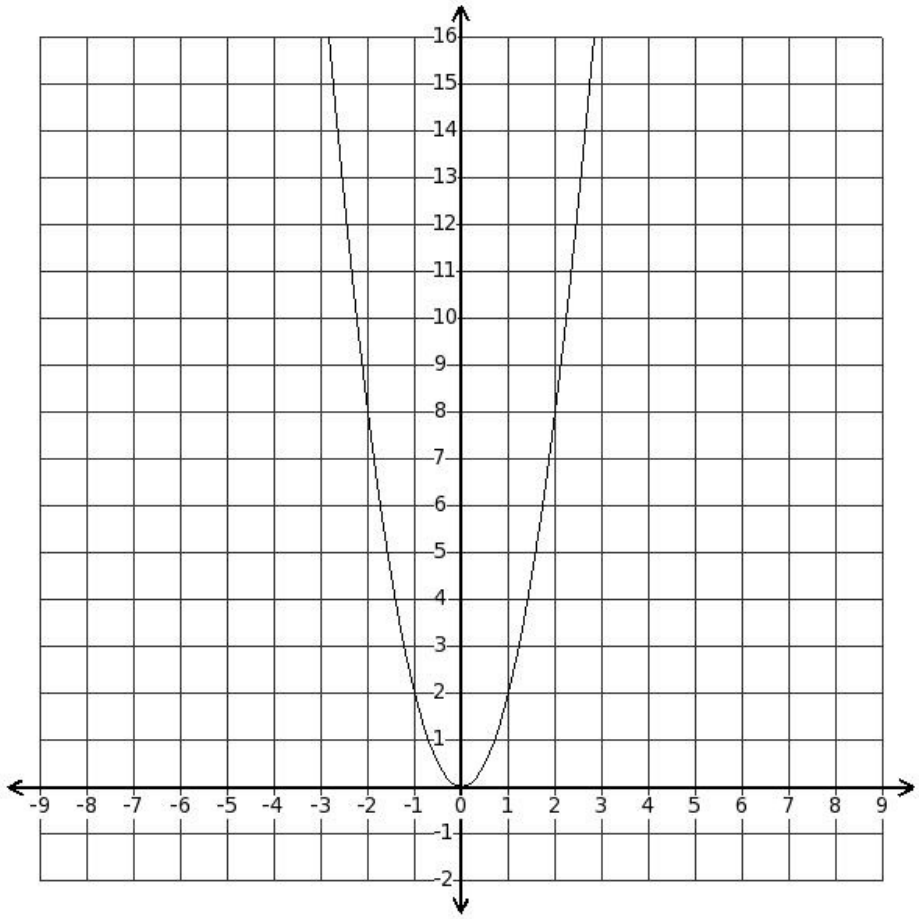
(iv)

x	-2	-1	0	1	4
y	-3	0	-9	-30	-61

(v)

x	-2	-1	0	0	2
y	-3	0	-9	-29	-63

5. Find the table of points that satisfy the parabola equation $y = 2x^2$



(i)

x	-2	-1	0	0	2
y	8	2	0	3	8

(ii)

x	-2	-1	0	1	2
y	8	2	0	2	8

(iii)

x	-2	-1	1	1	2
y	8	2	-1	2	8

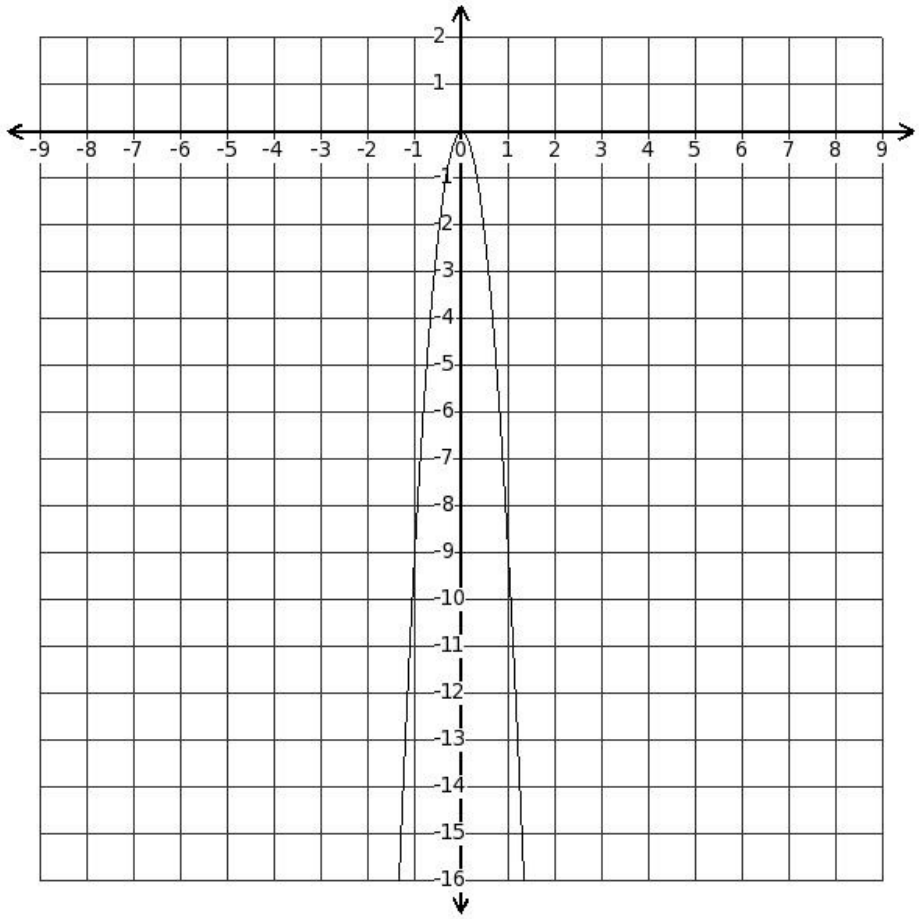
(iv)

x	-2	-1	0	1	4
y	8	2	0	2	10

(v)

x	-2	-1	-2	1	2
y	8	2	-2	2	8

6. Find the table of points that satisfy the parabola equation $y=(-9x^2)$



(i)

x	-2	-1	0	1	2
y	-36	-9	0	-9	-36

(ii)

x	-2	-1	-2	1	2
y	-36	-9	-2	-9	-36

(iii)

x	-2	-1	1	1	2
y	-36	-9	-1	-9	-36

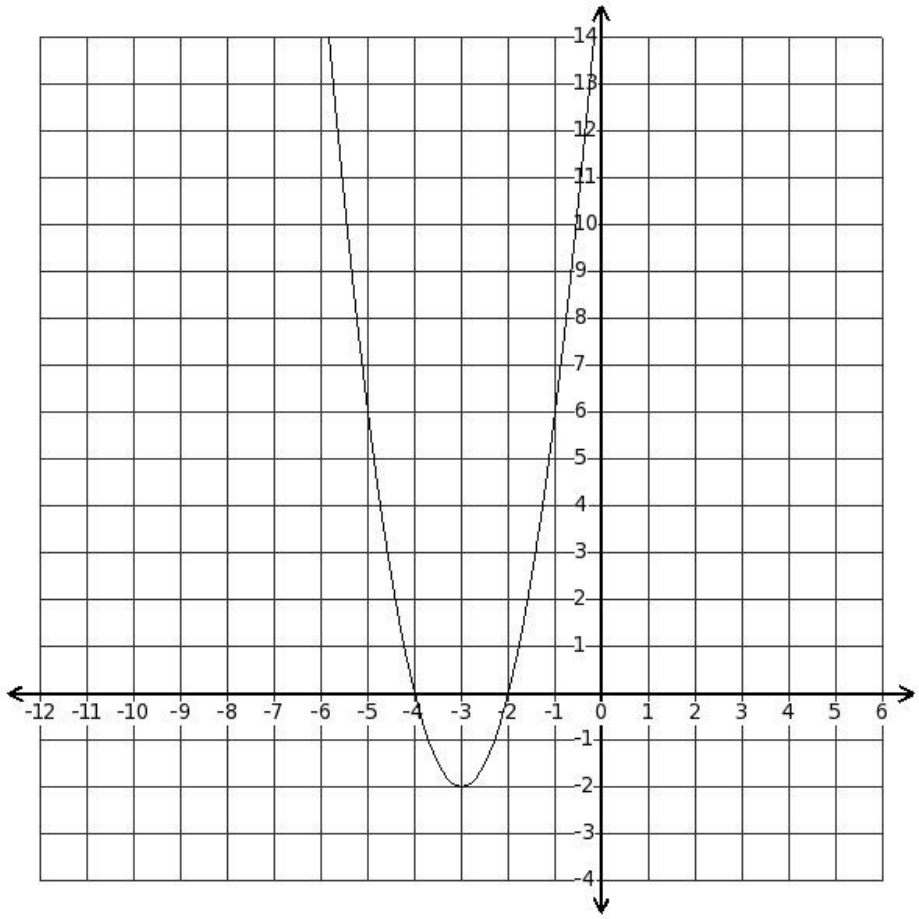
(iv)

x	-2	-1	0	0	2
y	-36	-9	0	-8	-36

(v)

x	-2	-1	0	1	4
y	-36	-9	0	-9	-34

7. Find the table of points that satisfy the parabola equation $y=(2x^2+12x+16)$



(i)

x	-2	-1	-2	1	2
y	0	6	14	30	48

(ii)

x	-2	-1	0	1	4
y	0	6	16	30	50

(iii)

x	-2	-1	0	0	2
y	0	6	16	31	48

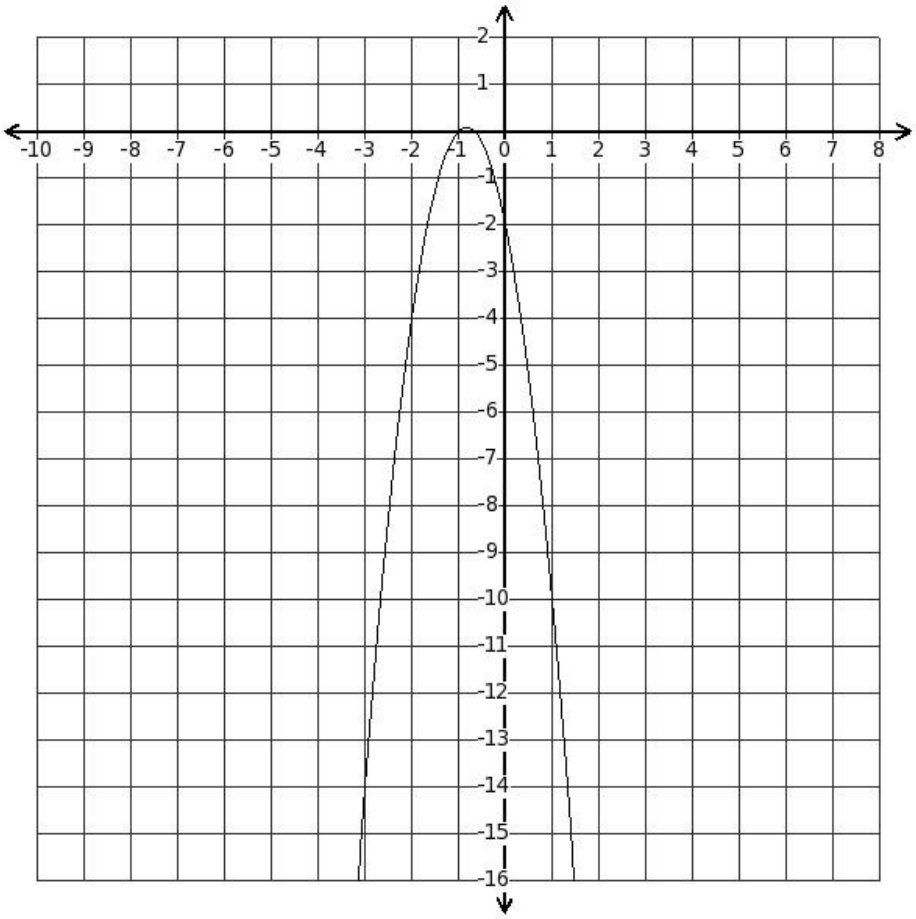
(iv)

x	-2	-1	0	1	2
y	0	6	16	30	48

(v)

x	-2	-1	1	1	2
y	0	6	15	30	48

8. Find the table of points that satisfy the parabola equation $y=(-3x^2-5x-2)$



(i)

x	-2	-1	1	2
y	-4	0	-10	-24

(ii)

x	-2	-1	0	0	2
y	-4	0	-2	-9	-24

(iii)

x	-2	-1	0	1	4
y	-4	0	-2	-10	-22

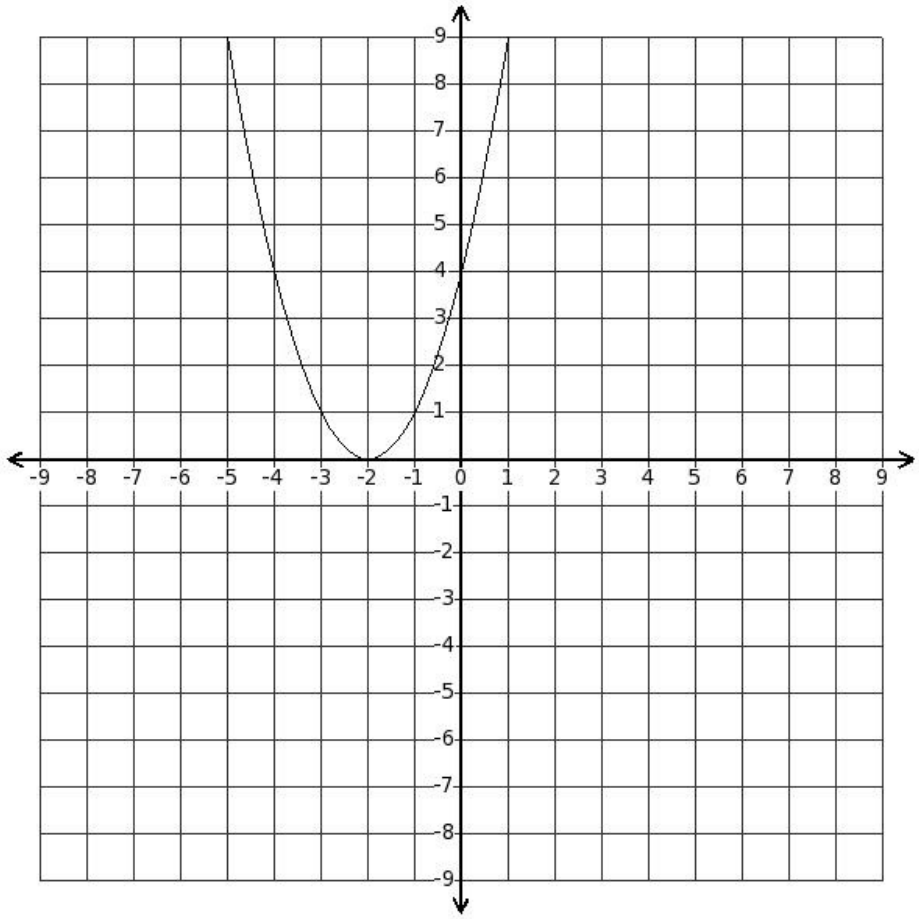
(iv)

x	-2	-1	1	1	2
y	-4	0	-3	-10	-24

(v)

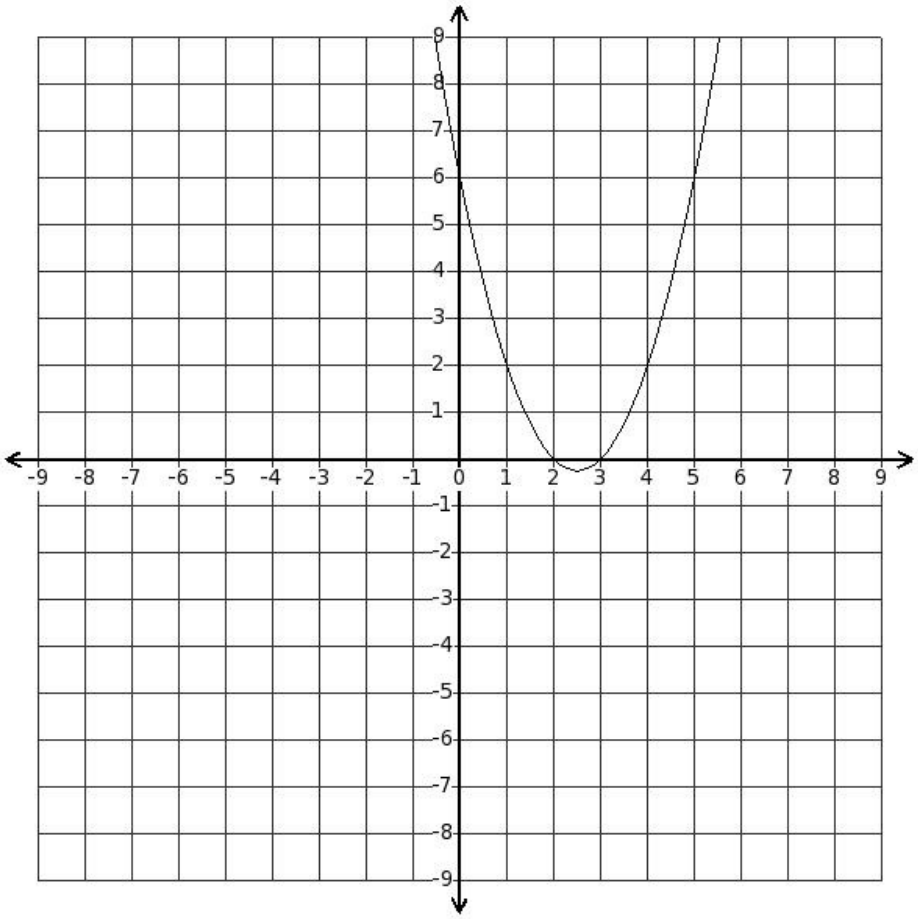
x	-2	-1	0	1	2
y	-4	0	-2	-10	-24

9. Find the roots of the quadratic equation $(x^2+4x+4)=0$



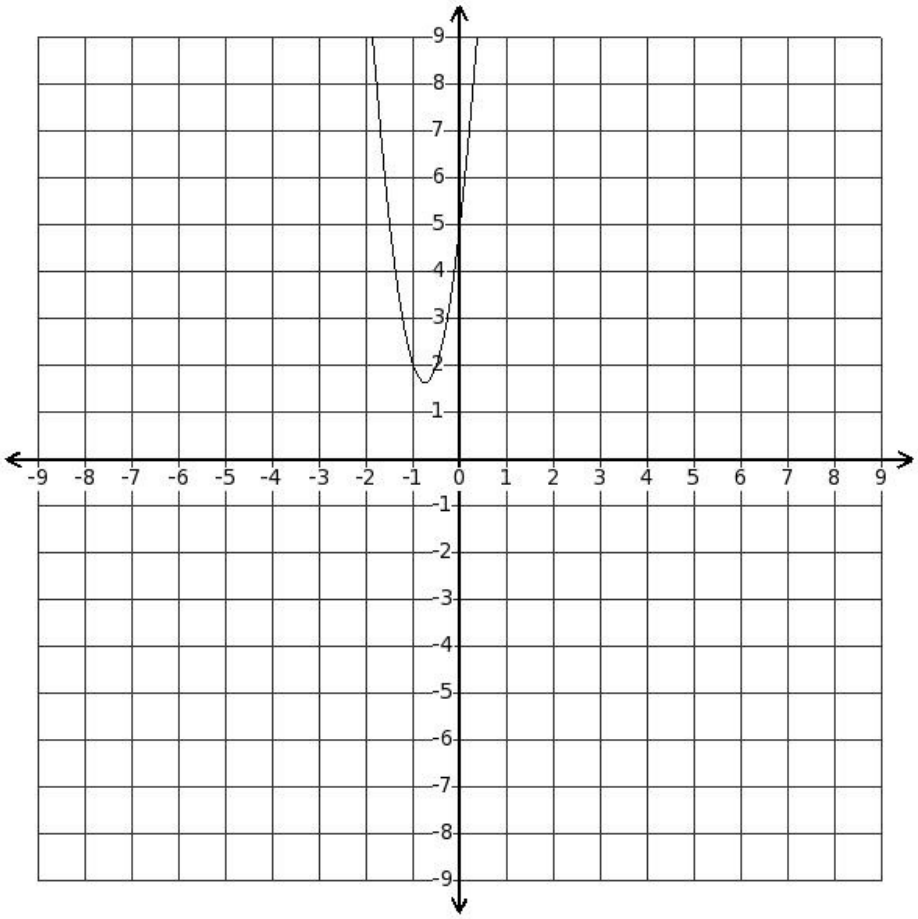
(i) no real roots (ii) (1,-2) (iii) (-1,-1) (iv) (-2,-2) (v) (-1,-2)

10. Find the roots of the quadratic equation $(x^2-5x+6)=0$



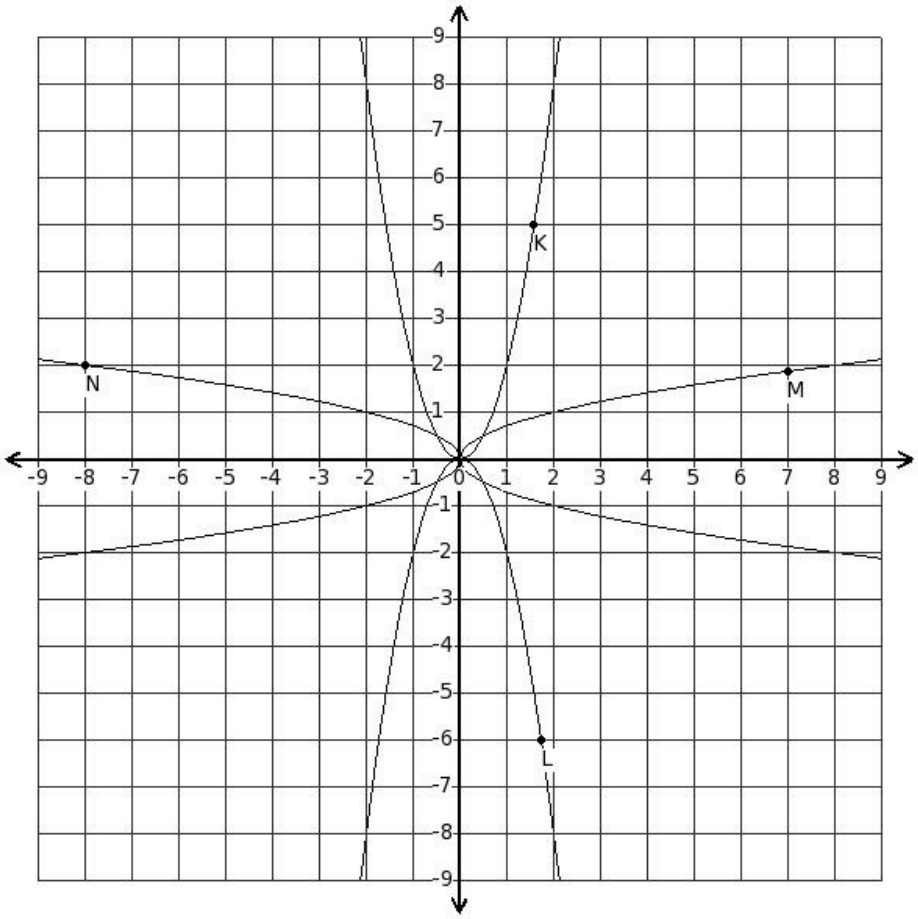
(i) (3,2) (ii) (4,3) (iii) (4,2) (iv) (7,2) (v) no real roots

11. Find the roots of the quadratic equation $(6x^2+9x+5)=0$



(i) $(1,0)$ (ii) $(1,1)$ (iii) no real roots (iv) $(3,0)$

12. Which of the displayed parabolae represent the equation $y=(-2x^2)$



(i) parabola with point N (ii) parabola with point L (iii) parabola with point M (iv) parabola with point K

13. The given table of points satisfy which parabola equation?

x	-3	-2	-1	0	1	2	3
y	18	8	2	0	2	8	18

(i) $y=2x^2$ (ii) $y=5x^2$ (iii) $y=x^2$ (iv) $y=3x^2$ (v) $y=(-x^2)$

14. The given table of points satisfy which parabola equation?

x	-3	-2	-1	0	1	2	3
y	-54	-24	-6	0	-6	-24	-54

(i) $y=(-5x^2)$ (ii) $y=(-4x^2)$ (iii) $y=(-8x^2)$ (iv) $y=(-6x^2)$ (v) $y=(-7x^2)$

15. The given table of points satisfy which parabola equation?

x	-3	-2	-1	0	1	2	3
y	0	3	8	15	24	35	48

(i) $y=(2x^2+8x+15)$ (ii) $y=(x^2+8x+15)$ (iii) $y=(x^2+5x+15)$ (iv) $y=(x^2+11x+15)$

(v) $y=(8x+15)$

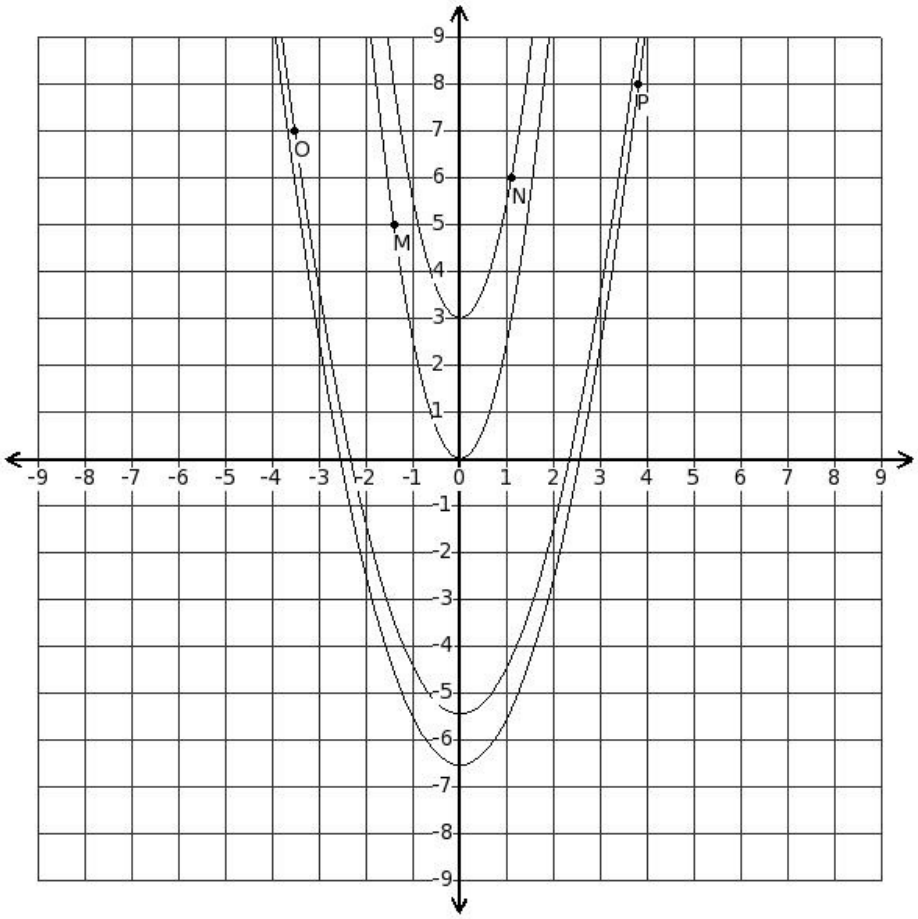
16. The given table of points satisfy which parabola equation?

x	-3	-2	-1	0	1	2	3
y	-32	-10	0	-2	-16	-42	-80

(i) $y=(-6x^2-5x-2)$ (ii) $y=(-6x^2-8x-2)$ (iii) $y=(-7x^2-8x-2)$ (iv) $y=(-6x^2-11x-2)$

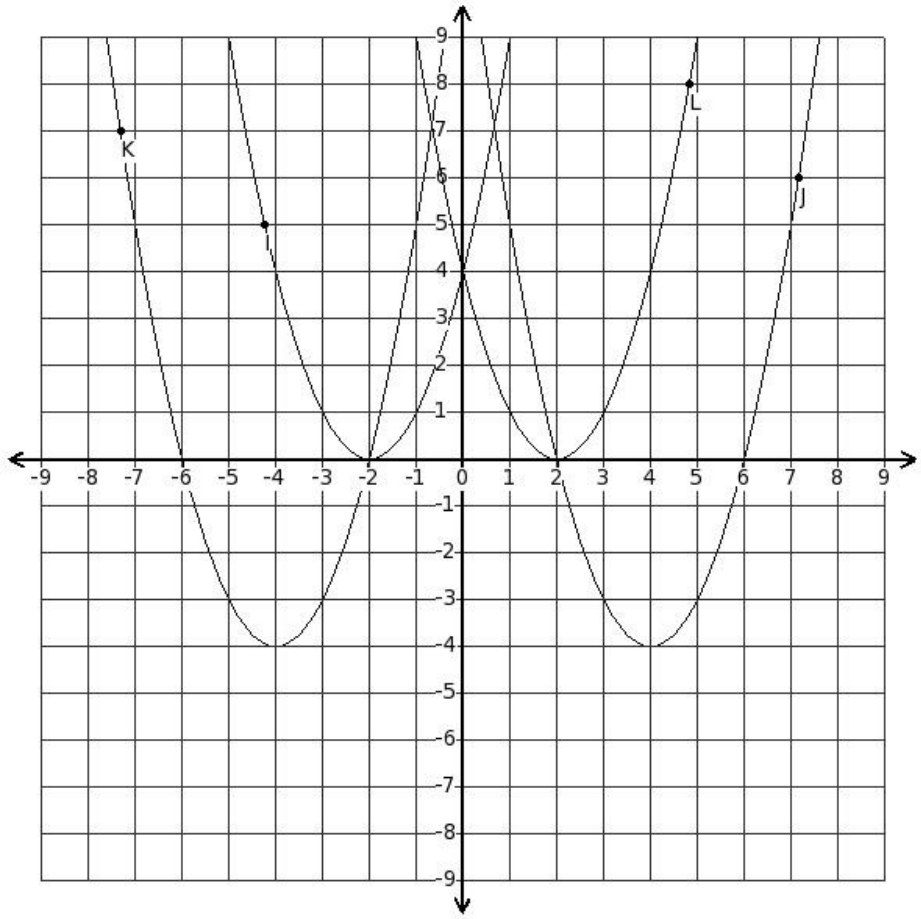
(v) $y=(-5x^2-8x-2)$

17. Which of the displayed parabolae represents the equation $y=(x^2-\frac{49}{9})$



(i) parabola with point N (ii) parabola with point P (iii) parabola with point M (iv) parabola with point O

18. Which of the displayed parabolae represents the equation $y=(x^2+8x+12)$



(i) parabola with point J (ii) parabola with point L (iii) parabola with point K (iv) parabola with point I

19. Which of the following are true?

a) The curve of a parabola $y=ax^2+bx+c$ always croses the X-axis

b) The curve of a parabola is a circle

c) The curve of a parabola is a closed figure

d) The curve of a parabola is a curve

e) The curve of a parabola lie in only one quadrant

f) The curve of a parabola is a straight line

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

20. Which of the following are true for m > 0 and a > 0?

a) The curve of a parabola $y=mx^2$ lies in the I & II quadrant

b) The curve of a parabola $x=-my^2$ lies in the II & III quadrant

c) The curve of a parabola $y=-mx^2$ lies in the I & II quadrant

d) The curve of a parabola $x=-my^2$ lies in the I & II quadrant

e) The curve of a parabola $y=ax^2+bx+c$ lies in the I & II quadrant

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

21. Which of the following are true for the parabola $y = ax^2 + bx + c$?

a) If the curve meets the X-axis at two places, there are two distinct non-real roots.

b) If the curve does not meet the X-axis , $b^2 - 4ac < 0$

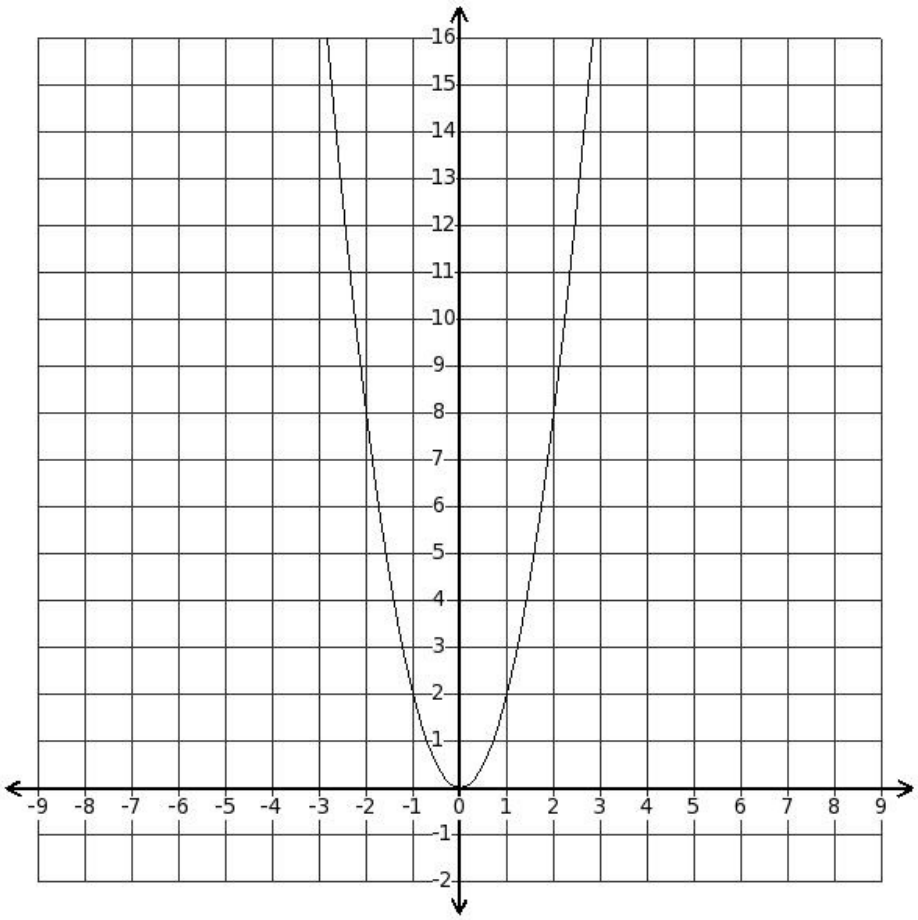
c) If the curve does not meet the X-axis,
there are no real roots for $y = ax^2 + bx + c$

d) If the curve meets the X-axis at only one point , $b^2 - 4ac = 0$

e) If the curve meets the X-axis at only one point , $b^2 - 4ac > 0$

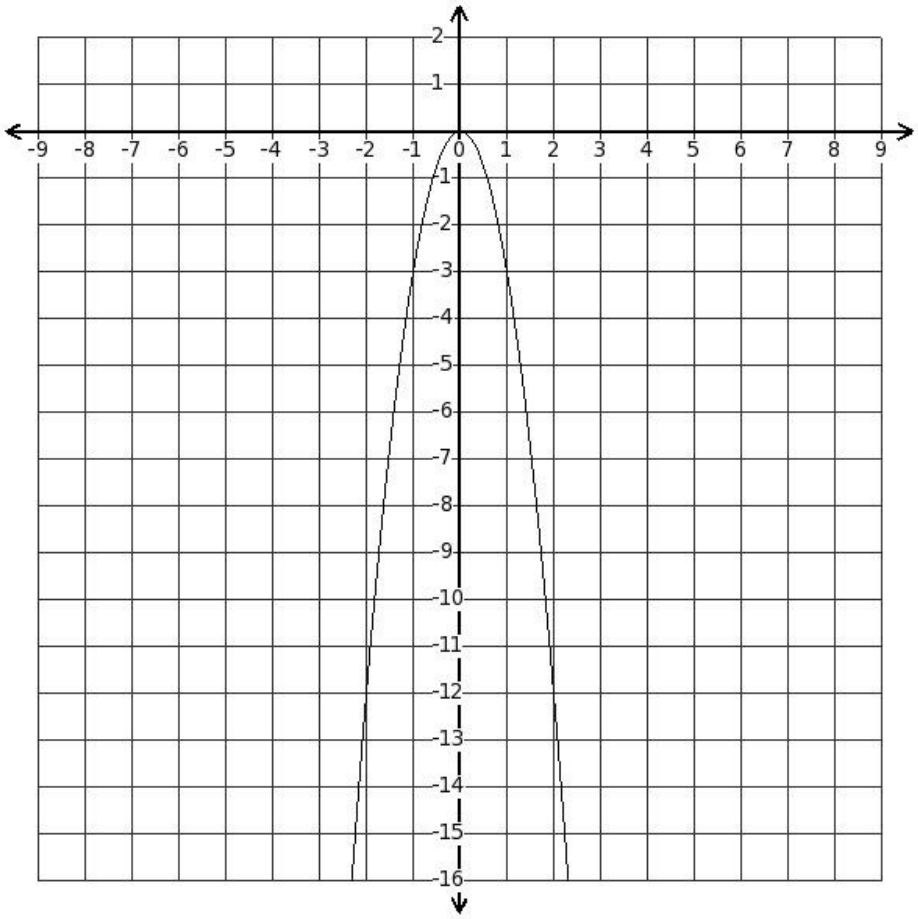
(i) {e,c} (ii) {b,c,d} (iii) {a,b} (iv) {a,e,d} (v) {a,b,c}

22. From the graph, find the approximate values of 'x' for which $y = 7$



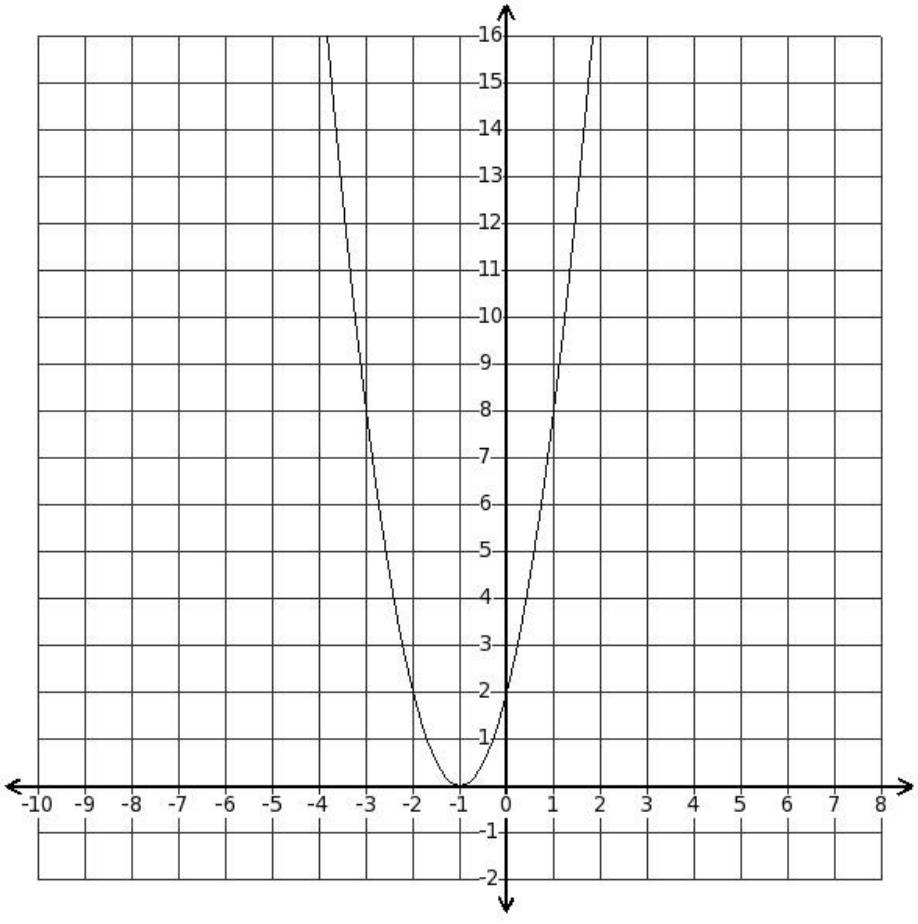
(i) 2.87 , -2.87 (ii) 2.37 , -2.37 (iii) 0.87 , -0.87 (iv) 1.37 , -1.37 (v) 1.87 , -1.87

23. From the graph, find the approximate values of 'x' for which $y = -6$



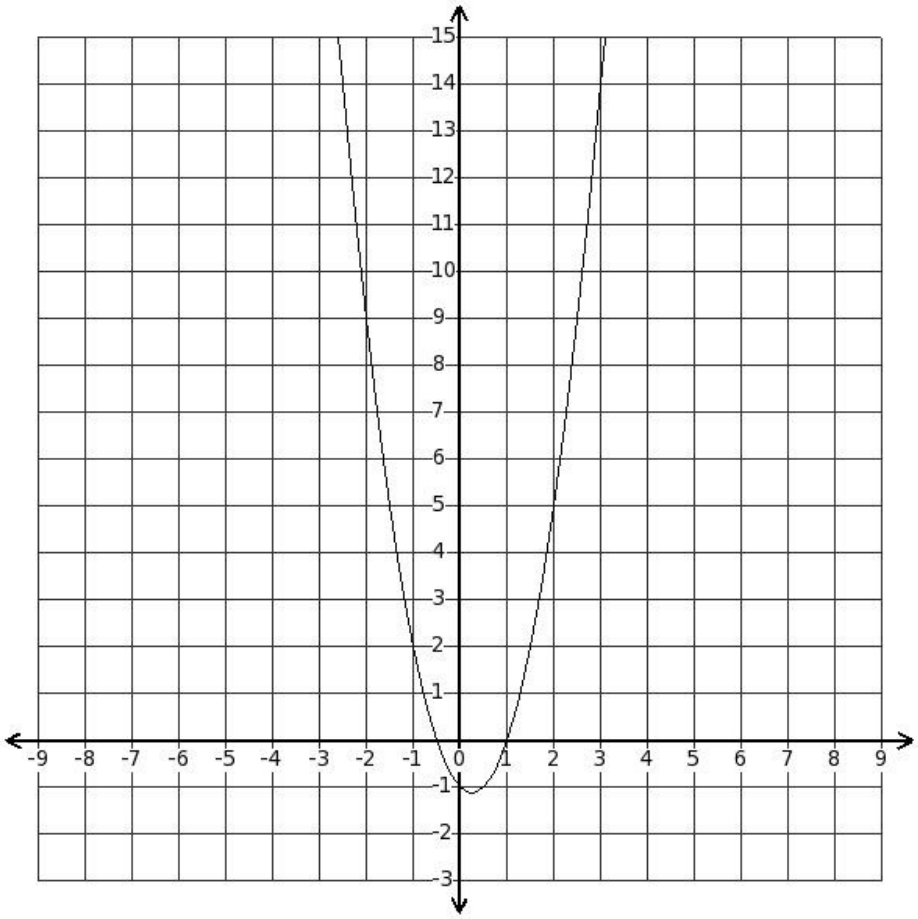
(i) -1.91, 1.91 (ii) -0.41, 0.41 (iii) -1.41, 1.41 (iv) -2.41, 2.41 (v) -0.91, 0.91

24. From the graph, find the approximate values of 'x' for which $y = 8$



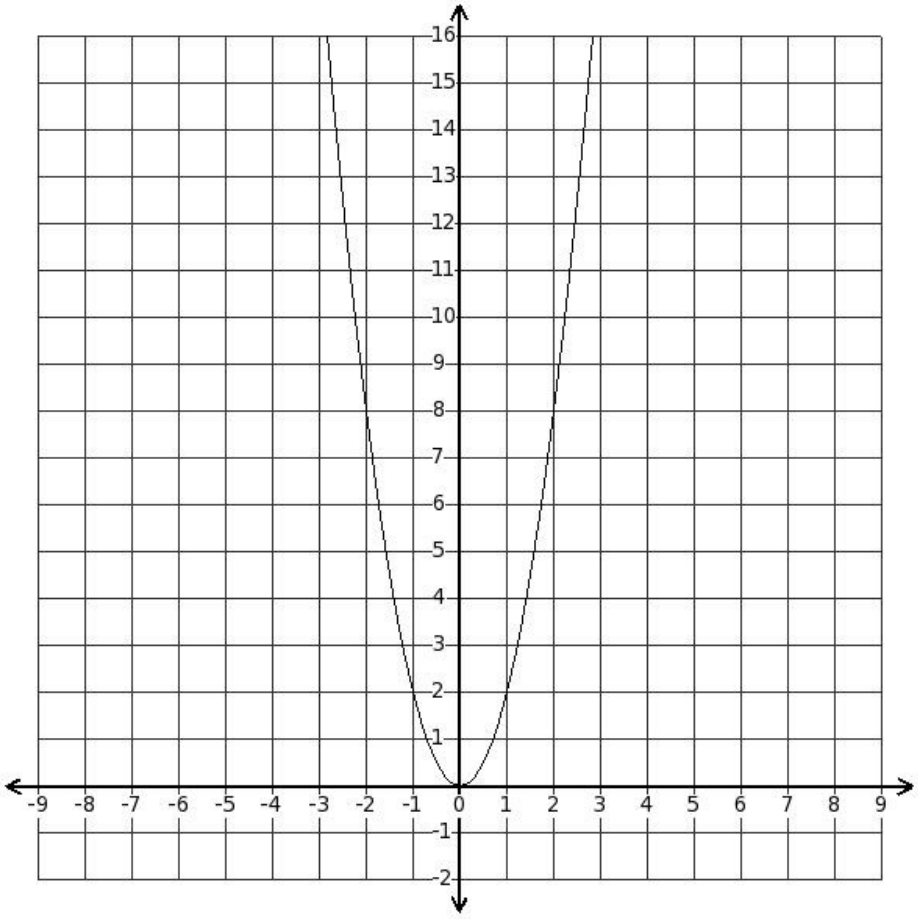
(i) 0.50, -2.50 (ii) 0.00, -2.00 (iii) 2.00, -4.00 (iv) 1.00, -3.00 (v) 1.50, -3.50

25. From the graph, find the approximate values of 'x' for which $y=4$



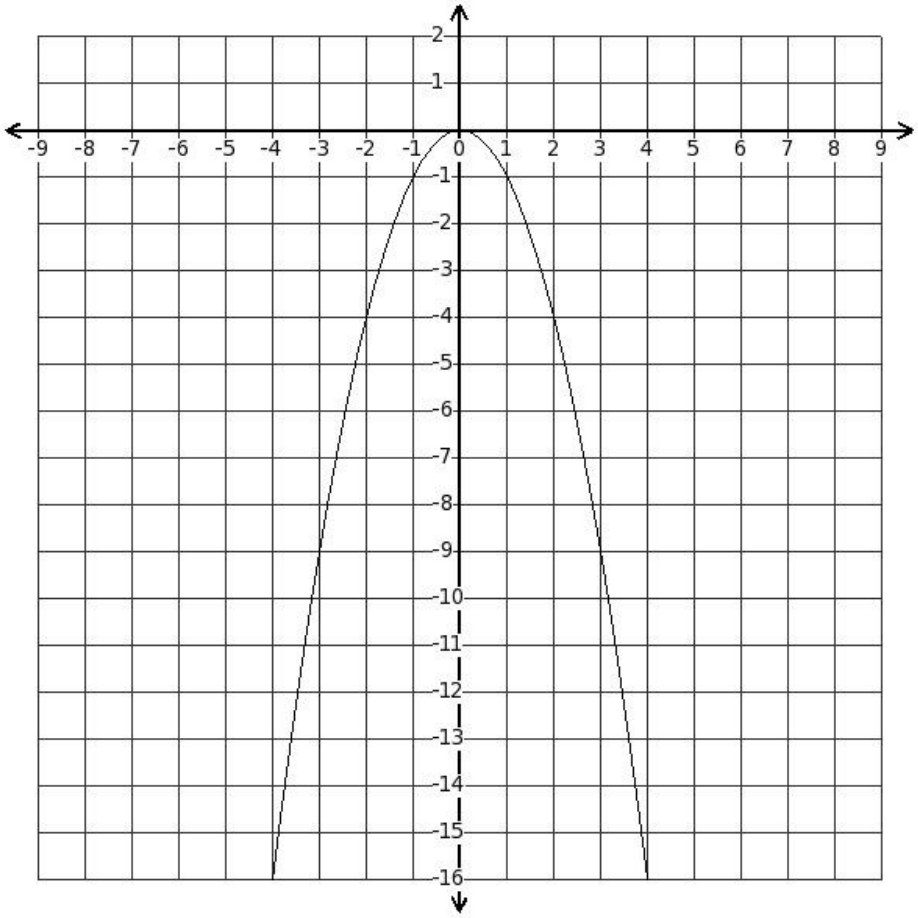
(i) 2.35, -1.85 (ii) 0.85, -0.35 (iii) 1.85, -1.35 (iv) 2.85, -2.35 (v) 1.35, -0.85

26. Which of the following equations represents the given graph ?



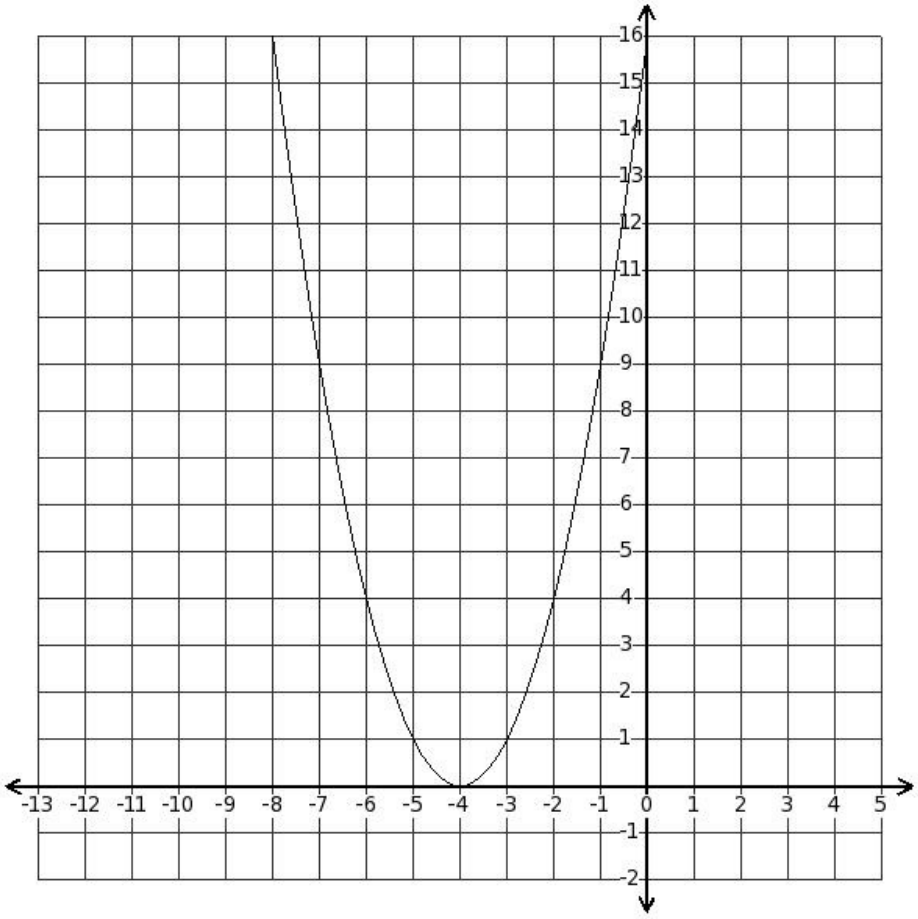
(i) $y=x^2$ (ii) $y=2x^2$ (iii) $y=3x^2$ (iv) $y=(-x^2)$ (v) $y=5x^2$

27. Which of the following equations represents the given graph ?



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

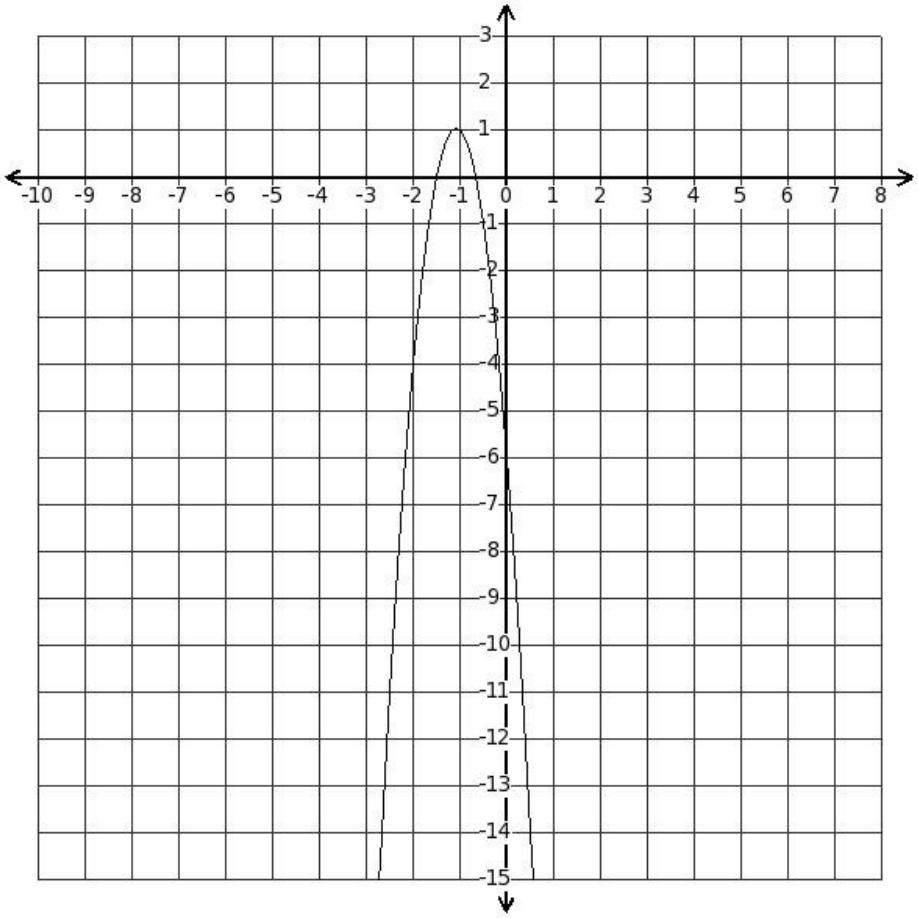
28. Which of the following equations represents the given graph ?



(i) $y=(x^2+8x+16)$ (ii) $y=(2x^2+8x+16)$ (iii) $y=(x^2+11x+16)$ (iv) $y=(8x+16)$

(v) $y=(x^2+6x+16)$

29. Which of the following equations represents the given graph ?



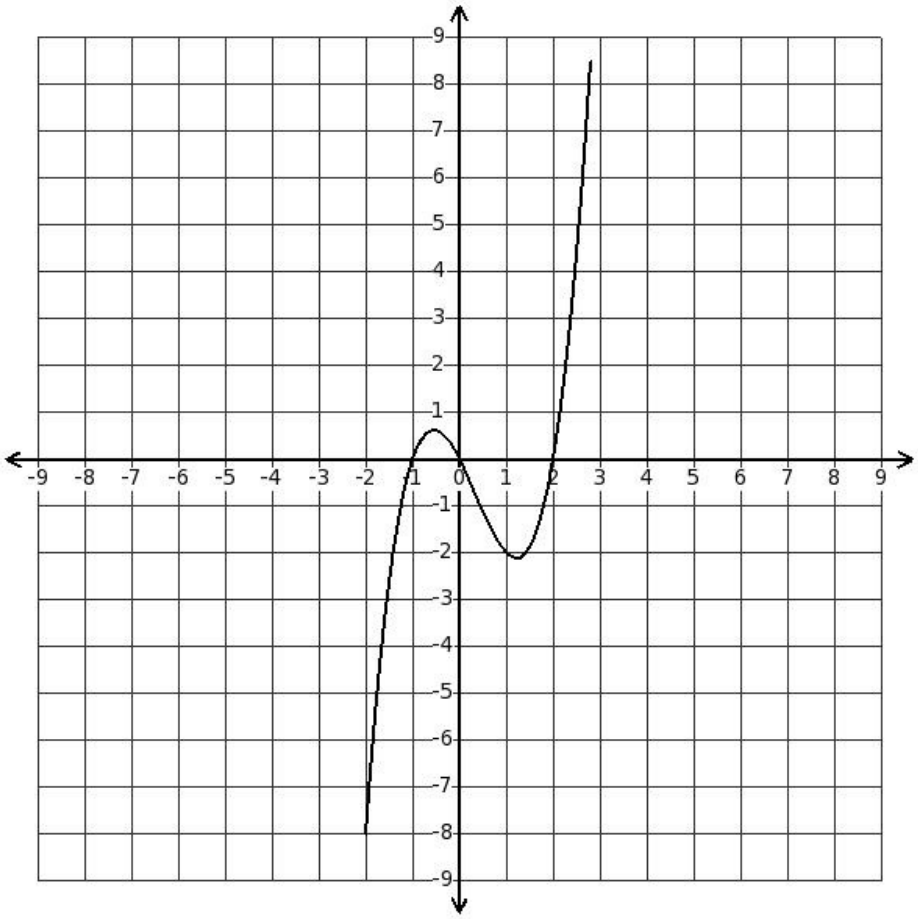
(i) $y=(-6x^2-11x-6)$ (ii) $y=(-6x^2-13x-6)$ (iii) $y=(-6x^2-16x-6)$ (iv) $y=(-5x^2-13x-6)$

(v) $y=(-7x^2-13x-6)$

30. The point $((-3),(-27))$ lies on which of the given parabolae?

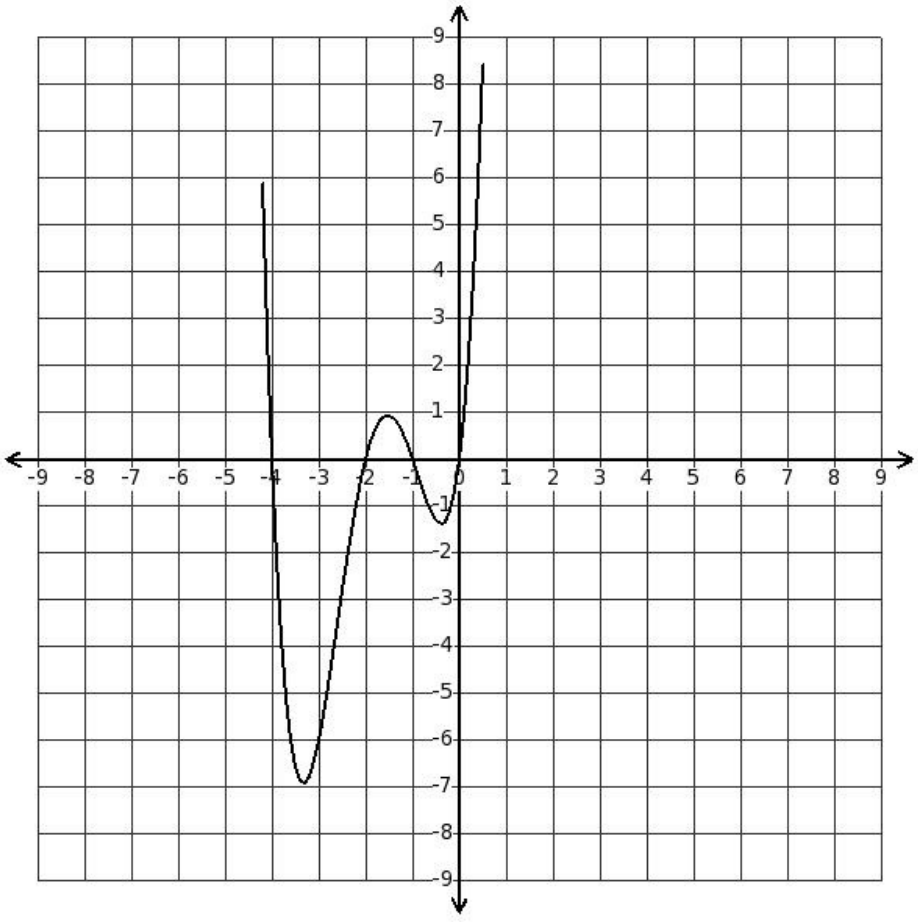
(i) $y=(-3x^2+4)$ (ii) $y=(-3x^2)$ (iii) $y=(-3x^2-5x)$ (iv) $y=(-3x^2-5x+4)$

31. From the following graph of $y = p(x)$, find the roots of $p(x)$



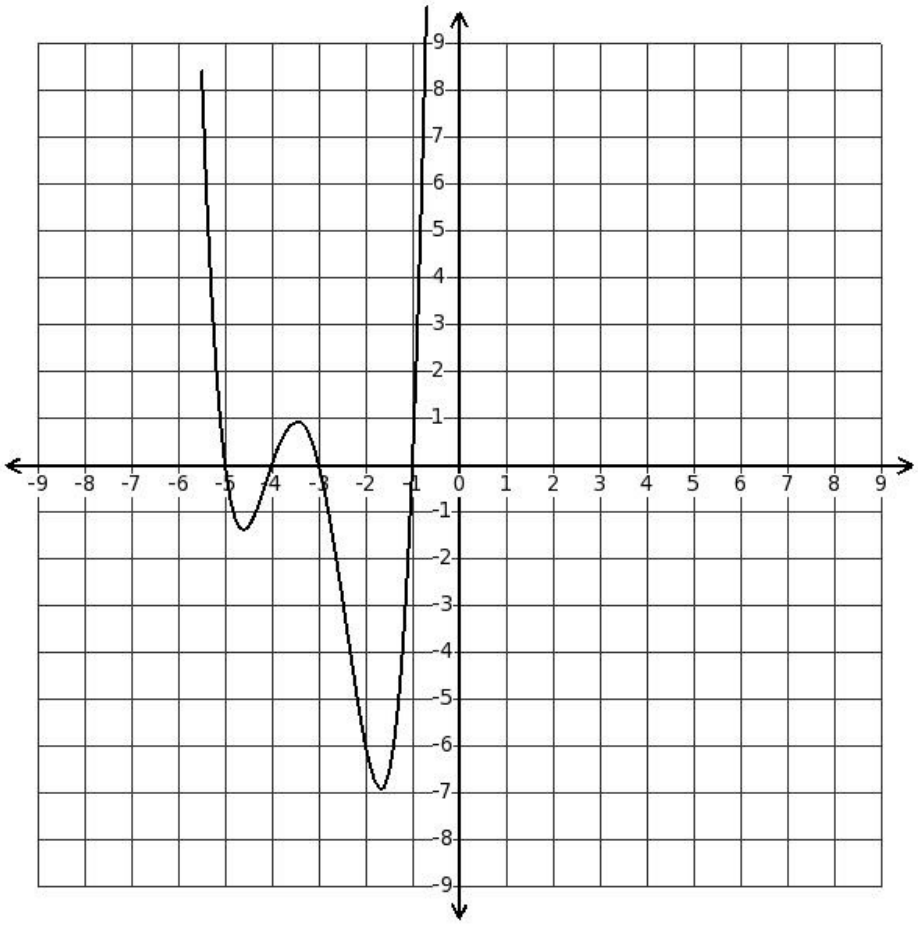
(i) -1, 0 and 2 (ii) -1, 0 and 4 (iii) -8, 0 and 2 (iv) -1, 6 and 2 (v) -1, -8 and 7

32. From the following graph of $y = p(x)$, find the roots of $p(x)$



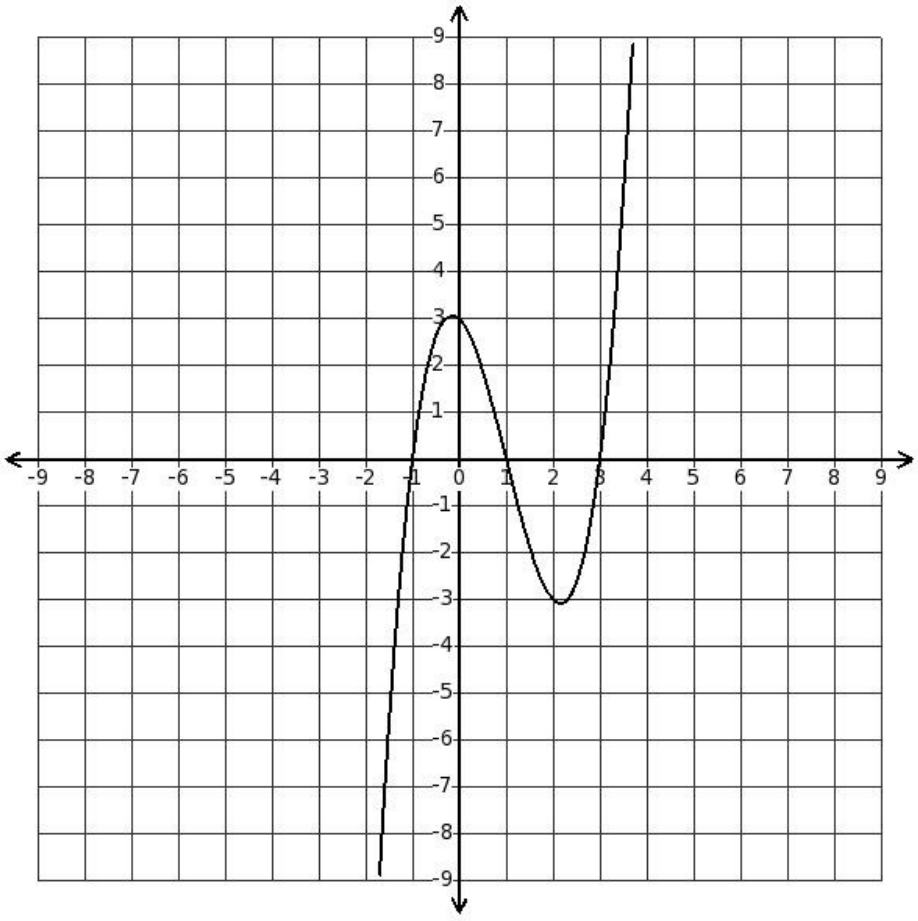
(i) -4, 7, -1 and 0 (ii) -6, -2, -1 and 0 (iii) -4, -2, -8 and 0 (iv) -4, -2, -1 and 5 (v) -4, -2, -1 and 0

33. From the following graph of $y = p(x)$, find the number of zeroes of $p(x)$



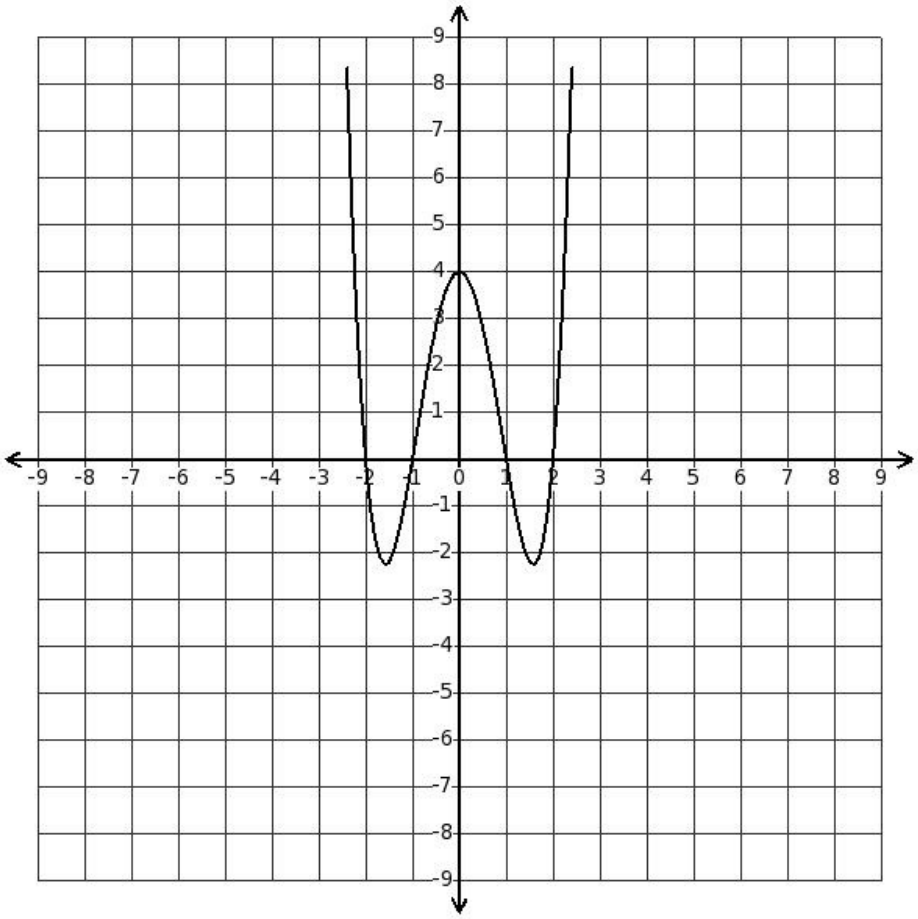
(i) 1 (ii) 3 (iii) 4 (iv) 5 (v) 6

34. From the following graph of $y = p(x)$, find the roots of $p(x)$



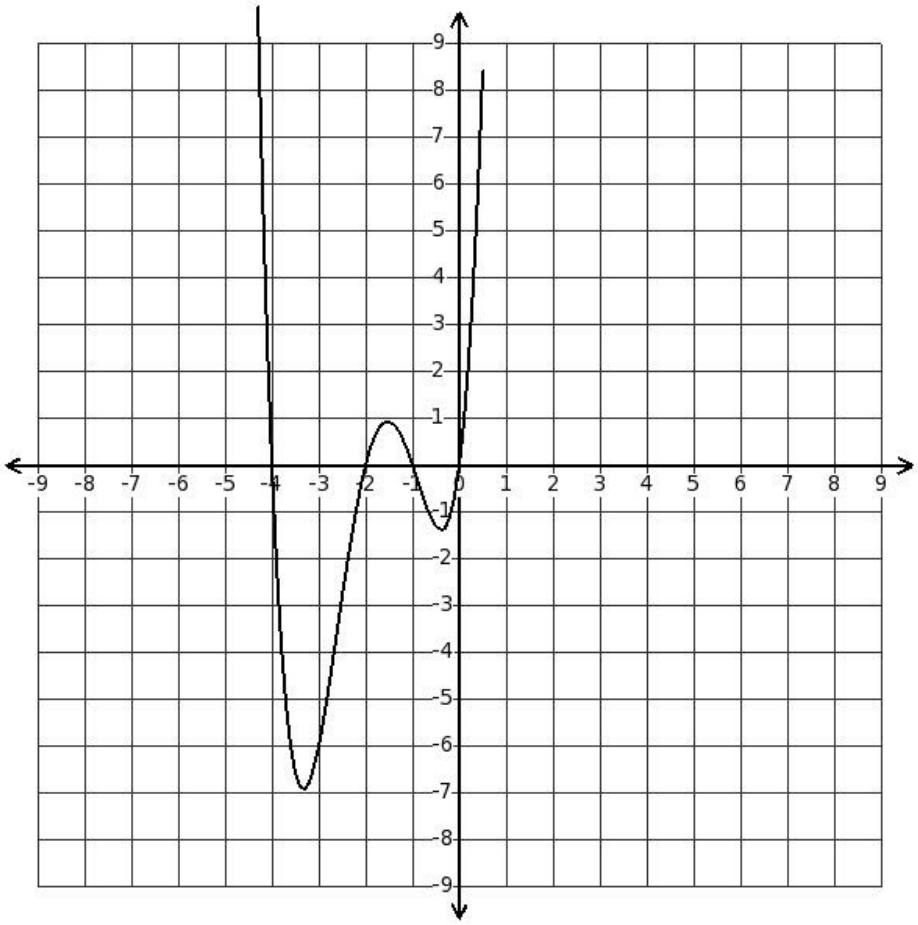
(i) -1, -2 and 4 (ii) -1, 7 and 3 (iii) -1, 1 and 3 (iv) -2, 1 and 3 (v) -1, 1 and -5

35. From the following graph of $y = p(x)$, find the roots of $p(x)$



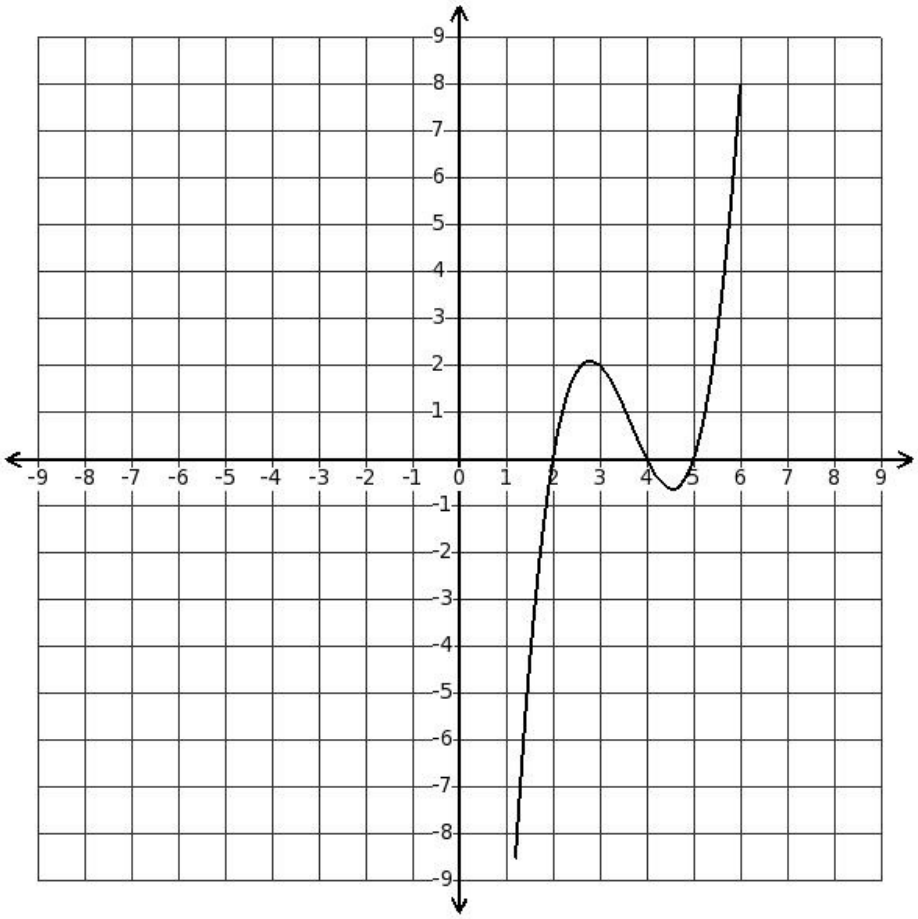
(i) -2, -1, 1 and -5 (ii) -2, -1, 0 and 2 (iii) -4, -1, 1 and 2 (iv) -2, 4, 1 and 2 (v) -2, -1, 1 and 2

36. From the following graph of $y = p(x)$, find the number of zeroes of $p(x)$



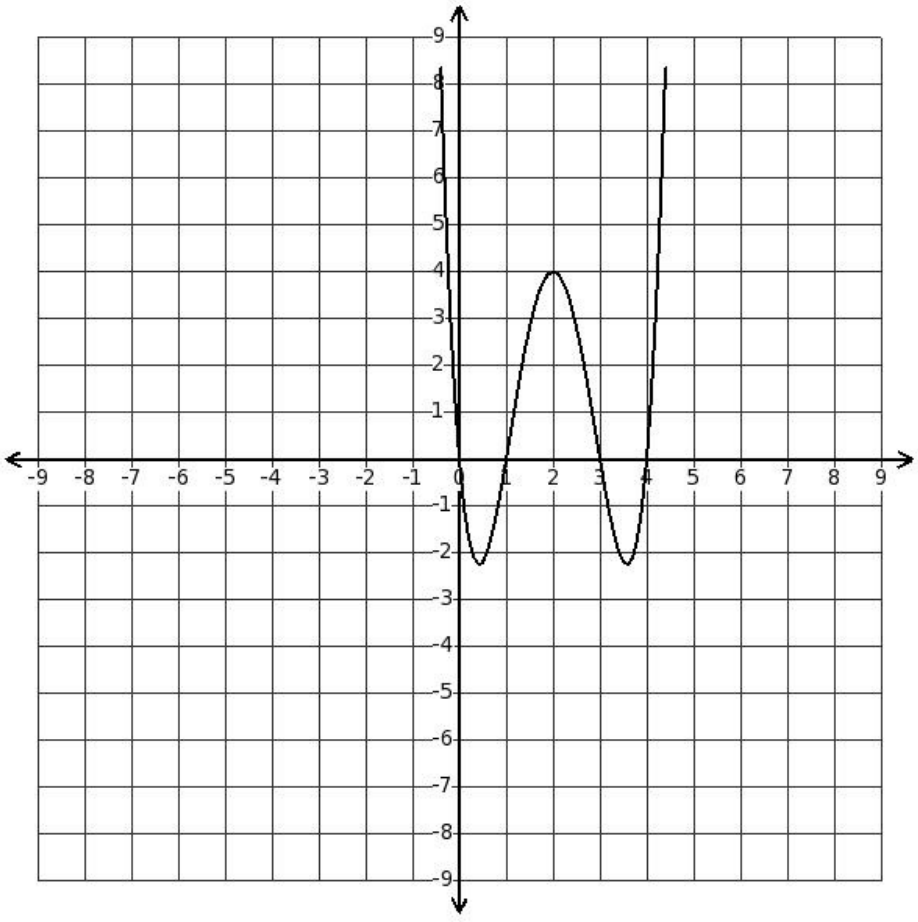
(i) 4 (ii) 5 (iii) 1 (iv) 3 (v) 6

37. From the following graph of $y = p(x)$, find the roots of $p(x)$



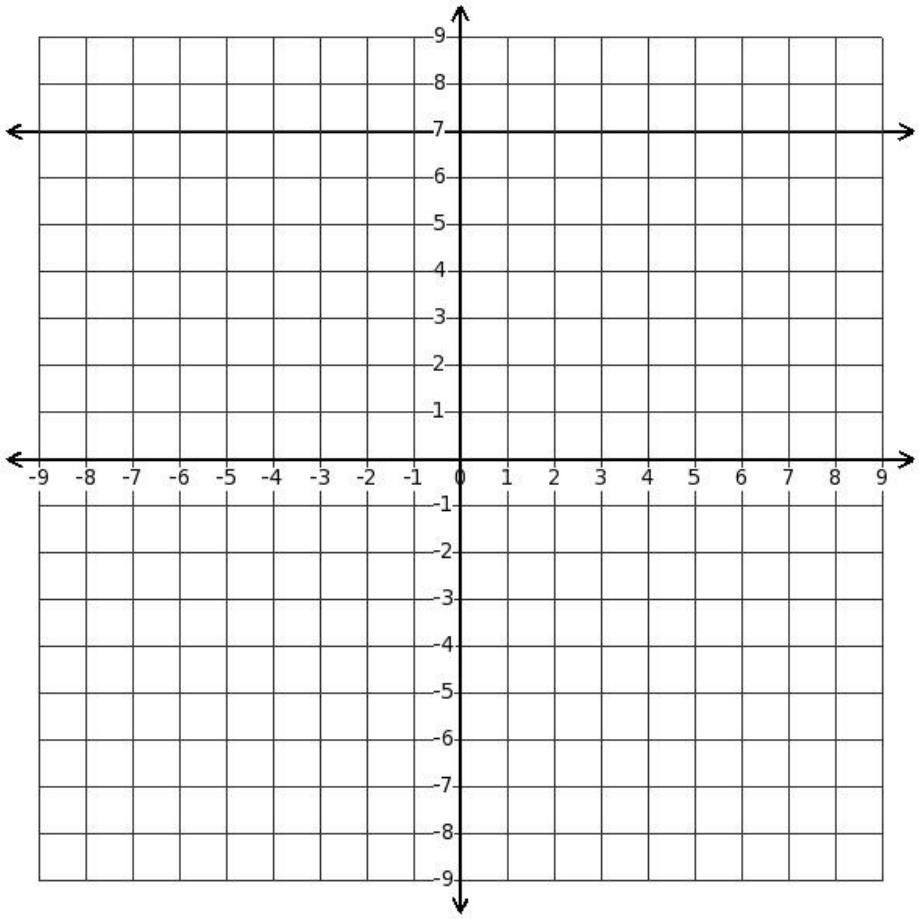
(i) 2, -3 and 6 (ii) 2, -4 and 5 (iii) 2, 4 and 5 (iv) 2, 4 and 1 (v) -3, 4 and 5

38. From the following graph of $y = p(x)$, find the roots of $p(x)$



(i) 0, -2, 3 and 4 (ii) 0, 1, 3 and -3 (iii) 0, 1, -4 and 4 (iv) -8, 1, 3 and 4 (v) 0, 1, 3 and 4

39. From the following graph of $y = p(x)$, find the number of zeroes of $p(x)$



(i) (-1) (ii) 0 (iii) 1 (iv) (-2) (v) 2

Assignment Key

1) (i)	2) (ii)	3) (ii)	4) (ii)	5) (ii)	6) (i)
7) (iv)	8) (v)	9) (iv)	10) (i)	11) (iii)	12) (ii)
13) (i)	14) (iv)	15) (ii)	16) (ii)	17) (iv)	18) (iii)
19) (iii)	20) (iii)	21) (ii)	22) (v)	23) (iii)	24) (iv)
25) (iii)	26) (ii)	27) (ii)	28) (i)	29) (ii)	30) (ii)
31) (i)	32) (v)	33) (iii)	34) (iii)	35) (v)	36) (i)
37) (iii)	38) (v)	39) (ii)			