EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Polynomials

Grade : CBSE Grade X

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1. Find the roots of the quadratic equation $(x^2-8x+16)=0$

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

2. The quotient when $(2m^2+8m+4)$ is divided by $(m+2)$ is

   (i) $(3m+4)$ (ii) $(m+4)$ (iii) 4 (iv) $(4m+4)$ (v) $(2m+4)$

3. Find the roots of the quadratic equation $(x^2+12x+36)=0$

   (i) (-4,-8) (ii) (-5,-7) (iii) (-5,-6) (iv) (-4,-7) (v) (-6,-6)

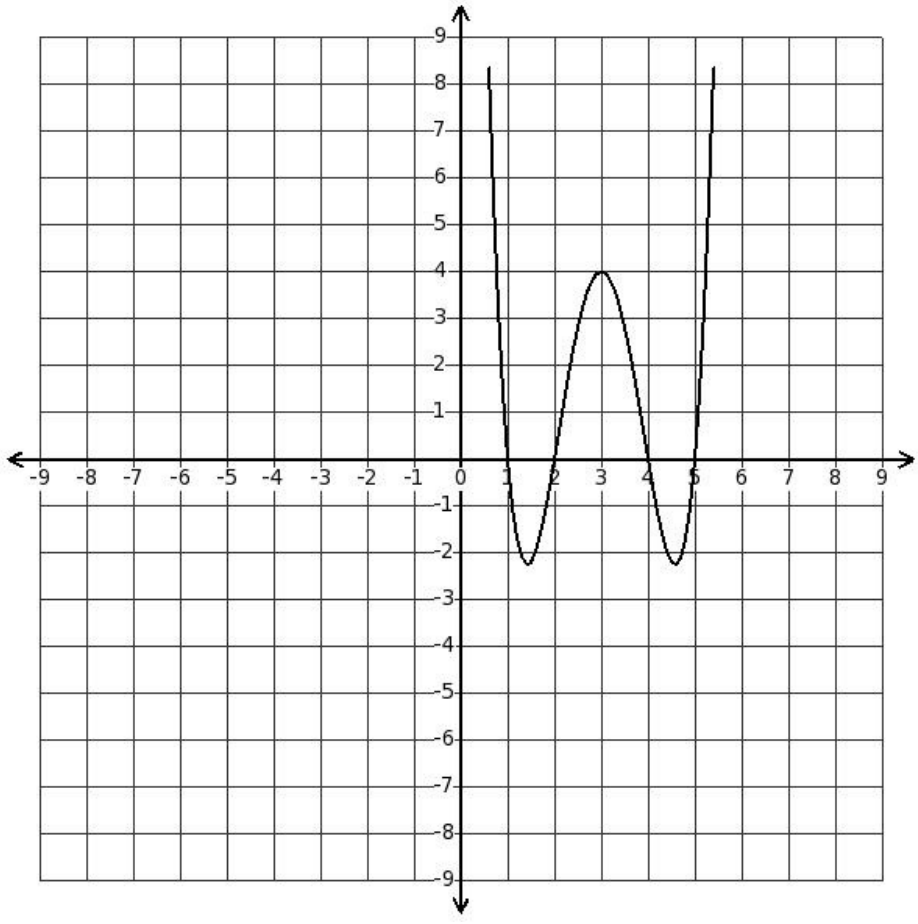
4. The sum of the roots of the quadratic equation $(-6x^2-30x-36)=0$ is

   (i) -6 (ii) -8 (iii) -4 (iv) -5 (v) -2

5. The value of the polynomial $(-2q^4+9q^3-6q^2+9q+4)$ at $q=3$ is

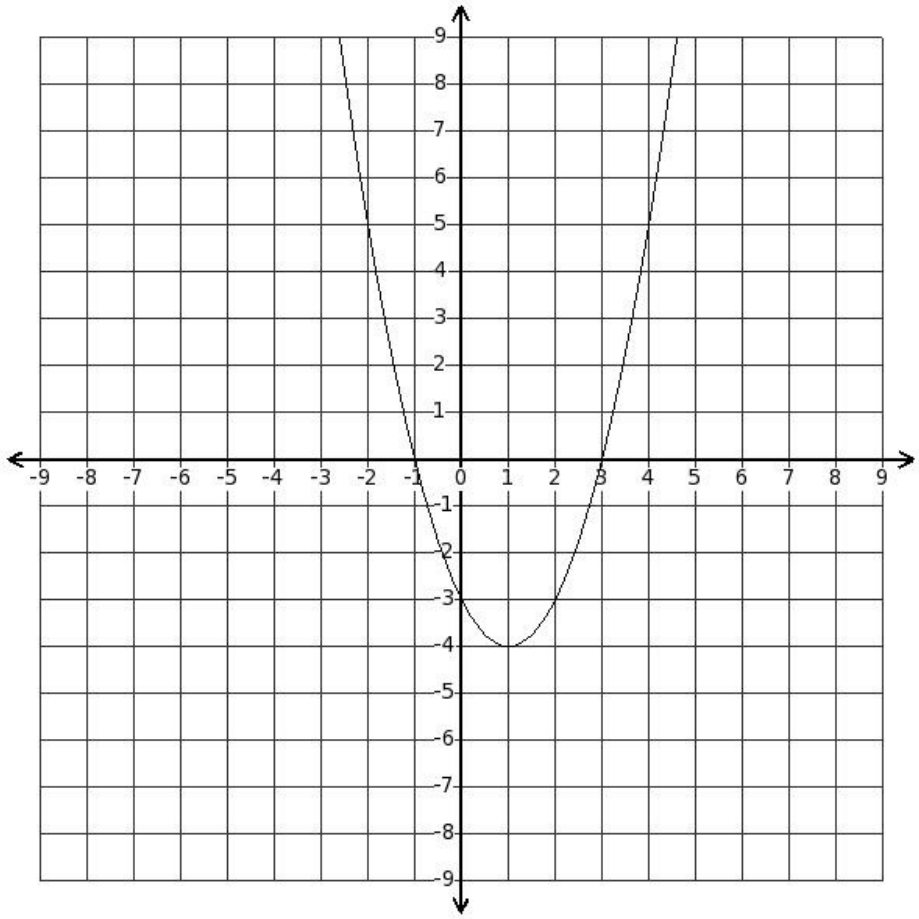
   (i) 59 (ii) 56 (iii) 58 (iv) 61 (v) 57

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



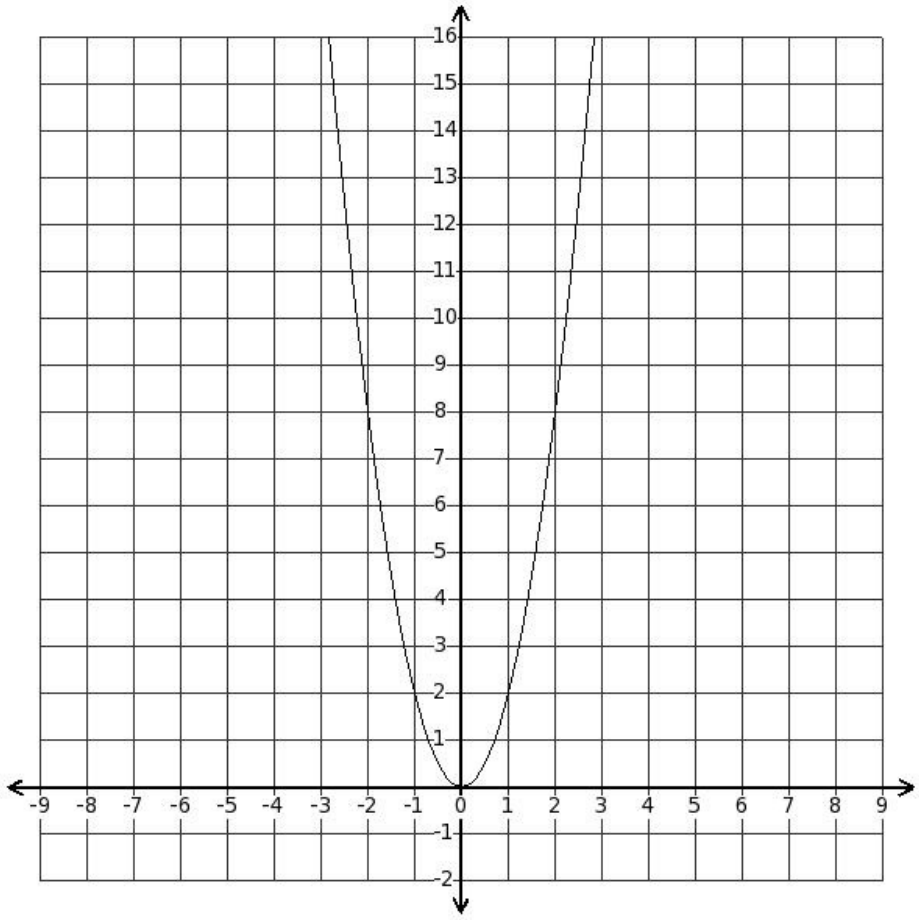

   (i) 1, 2, 4 and 5 (ii) 1, 2, -2 and 5 (iii) -4, 2, 4 and 5 (iv) 1, 3, 4 and 5 (v) 1, 2, 4 and -1

7. Find the roots of the quadratic equation $(x^2-2x-3)=0$



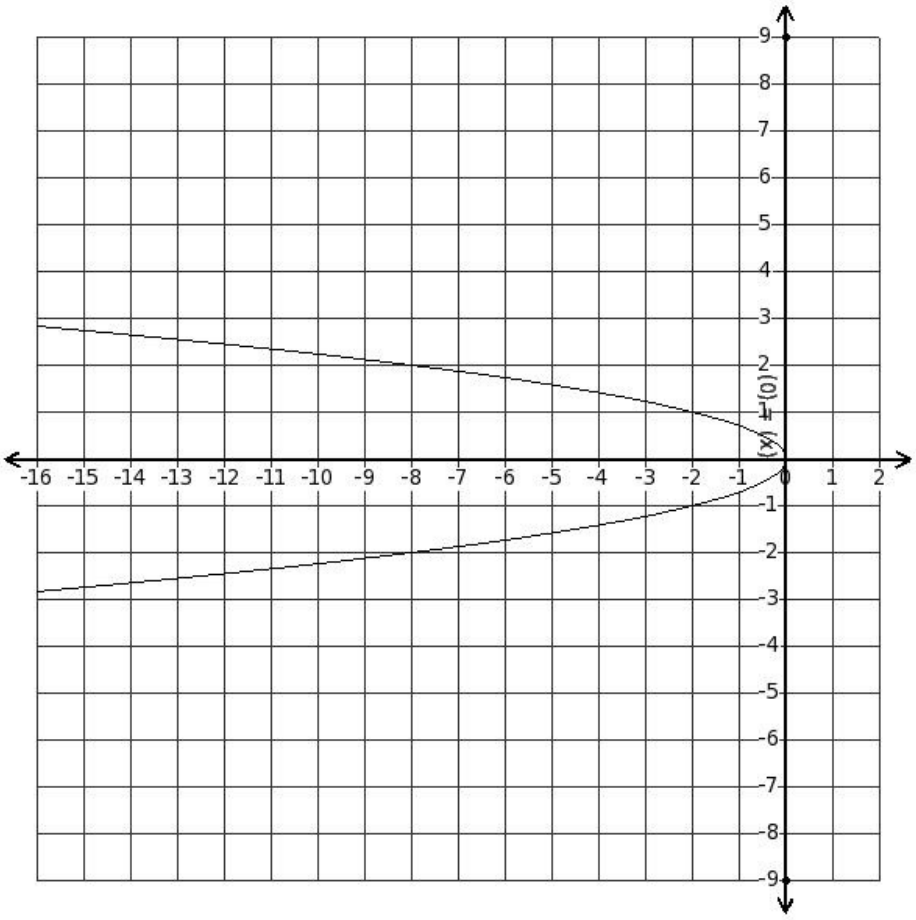
(i) (4,0) (ii) no real roots (iii) (6,-1) (iv) (4,-1) (v) (3,-1)

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



(i) 2.73,-2.73 (ii) 1.23,-1.23 (iii) 0.73,-0.73 (iv) 2.23,-2.23 (v) 1.73,-1.73

9. The parabola is $x=(-2y^2)$ and
line equation is $x=0$ . Find the quadratic equation.




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

10. $(6x^4+17x^3+12x^2)\div(2x^2+3x)$

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

11. The point $(2,0)$ lies on which of the given parabolae?

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

12. If $\alpha$, $\beta$, $\gamma$ are the roots of the cubic equation $(70x^3-353x^2+557x-280)=0$ , find $\alpha\beta\gamma$

(i) $\frac{353}{70}$ (ii) $(-\frac{557}{70})$ (iii) $(-\frac{353}{70})$ (iv) $(-4)$ (v) $4$

13. Which of the following algebraic expressions is a linear polynomial?

(i) $(-9)$ (ii) $(-9e^2-7e+6)$ (iii) $(-6e^5+4e^4+8e^3-2e^2-3)$ (iv) $(6e^3-4e^2-3e-6)$ (v) $(-8e+2)$

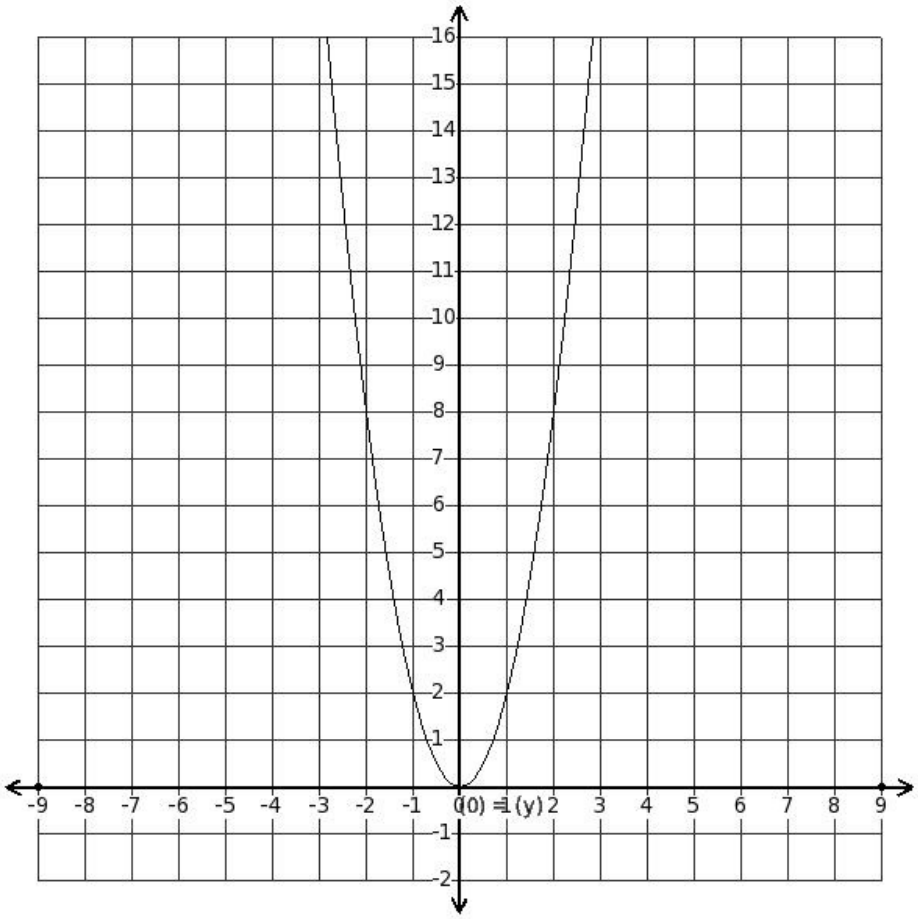
14. If one of the roots of the cubic equation $(448x^3-304x^2+55x-3)=0$ is $\frac{1}{8}$ , find the remaining real roots

(i) $(\frac{1}{6},\frac{3}{5})$ (ii) $(\frac{1}{10},\frac{1}{3})$ (iii) $((-\frac{1}{8}),\frac{1}{7})$ (iv) $(\frac{3}{8},\frac{5}{7})$ (v) $(\frac{3}{7},\frac{1}{8})$

15. Solve : $45x^2b^2 + 13axb - 2a^2 = 0$

(i) $-\frac{2a}{3b}, \frac{a}{7b}$ (ii) $0, \frac{a}{3b}$ (iii) $-\frac{2a}{5b}, \frac{a}{9b}$ (iv) $-\frac{2a}{7b}, \frac{a}{11b}$ (v) $-\frac{4a}{5b}, -\frac{a}{9b}$

16. The parabola is $y = 2x^2$ and line equation is $y = 0$ . Find the quadratic equation.

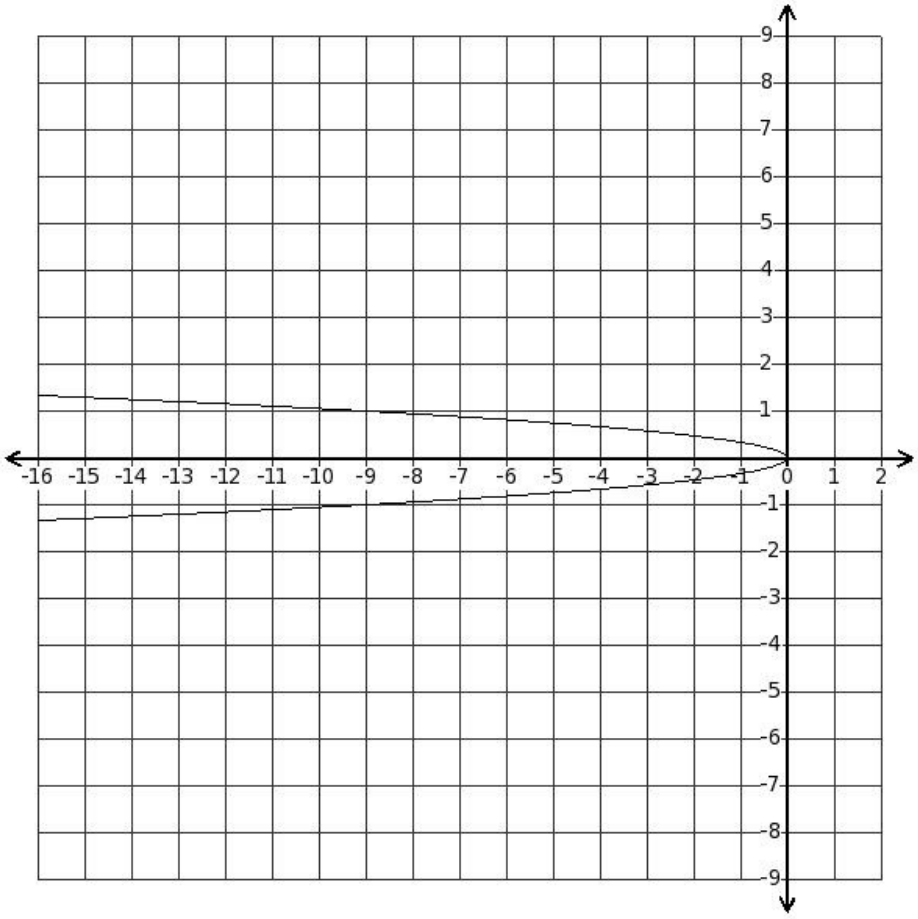



(i) $5x^2 = 0$ (ii) $(-x^2) = 0$ (iii) $3x^2 = 0$ (iv) $2x^2 = 0$ (v) $x^2 = 0$

17. Which of the following is not a factor of $50x^3y^3z^2$ ?

(i) $x^3y^3z$ (ii) $x^2y^3z^2$ (iii) $z^2$ (iv) $x^3y^4z^2$ (v) $x^3y^2z^2$

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




(i) $x=(-12y^2)$ (ii) $x=(-7y^2)$ (iii) $x=(-9y^2)$ (iv) $x=(-10y^2)$ (v) $x=(-8y^2)$

19. $(-2x^3+x^2+2x-1)\div(-2x^2-x+1)=$

(i) $(-1)$ (ii) $(-x-1)$ (iii) $(x-1)$ (iv) $(x+1)$ (v) $(2x-1)$

20. The degree of the polynomial $(3t^2-7t+8)$ is

(i) 1 (ii) 0 (iii) 3 (iv) 5 (v) 2

21. Which of the following is not an irreducible factor of $(x^2y+xy^2+xy)$ ?

(i) $x$ (ii) $(x+y+1)$ (iii) $y$ (iv) $xy$

22. Find the table of points that satisfy the parabola equation $y=(-3x^2-12x-9)$

(i)

| **x** | -2 | -1 | -2 | 1 | 2 |
|---|---|---|---|---|---|
| **y** | 3 | 0 | -11 | -24 | -45 |

(ii)

| **x** | -2 | -1 | 0 | 1 | 4 |
|---|---|---|---|---|---|
| **y** | 3 | 0 | -9 | -24 | -43 |

(iii)

| **x** | -2 | -1 | 0 | 1 | 2 |
|---|---|---|---|---|---|
| **y** | 3 | 0 | -9 | -24 | -45 |

(iv)

| **x** | -2 | -1 | 1 | 1 | 2 |
|---|---|---|---|---|---|
| **y** | 3 | 0 | -10 | -24 | -45 |

(v)

| **x** | -2 | -1 | 0 | 0 | 2 |
|---|---|---|---|---|---|
| **y** | 3 | 0 | -9 | -23 | -45 |

23. The quotient when $(-4c^4+3c^3+c^2+8c-5)$ is divided by $(c^2-15c+56)$ is

(i) $(-c^2-57c-630)$ (ii) $(-3c^2-57c-630)$ (iii) $(-5c^2-57c-630)$ (iv) $(-4c^2-57c-630)$

(v) $(-7c^2-57c-630)$

24. If $(x^2-1)$ is a factor of $ax^4 + bx^3 + cx^2 + dx + e$, which of the following are true ?

a) b + d = 0
b) a + b + c = 0
c) a + c + e = 0
d) a + b + c + d + e = 0
e) d + e = 0
f) a + b + c = d + e

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

25. The axis and origin of the parabola $y=(-x^2-x+3)$ are

(i) $x=(-1),(\frac{17}{4},(\frac{-1}{2}))$ (ii) $x=(-\frac{1}{4}),(\frac{9}{4},(\frac{-1}{2}))$ (iii) $x=\frac{1}{2},(\frac{1}{2},\frac{13}{4})$ (iv) $x=(-\frac{1}{2}),((\frac{-1}{2}),\frac{13}{4})$

## Assignment Key

| | | | | | |
|---|---|---|---|---|---|
| 1) (iii) | 2) (v) | 3) (v) | 4) (iv) | 5) (iii) | 6) (i) |
| 7) (v) | 8) (v) | 9) (v) | 10) (ii) | 11) (iii) | 12) (v) |
| 13) (v) | 14) (v) | 15) (iii) | 16) (iv) | 17) (iv) | 18) (iii) |
| 19) (iii) | 20) (v) | 21) (iv) | 22) (iii) | 23) (iv) | 24) (iv) |
| 25) (iv) | | | | | |

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