

ALGEBRAIC EXPRESSIONS

Q1. Using suitable identities evaluate :

i) $(1092)^2$

ii) $(95)^2$

Q2. Find the volume of cuboids whose dimensions are $(x^2 - 2)$; $(2x + 4)$ and $(x-3)$.

Q3. Using suitable identities find $(xy + 3p)^2$.

Q4. I) Subtract : $3t^4 - 4t^3 + 2t^2 - 6t + 6$ from $-4t^4 + 8t^3 - 4t^2 - 2t + 11$.

II) Multiply : $[(3/4)x - (4/3)y]$, $[(2/3)x + (3/2)y]$.

Q5. Simplify : $[(2.5)p + (1.5)q]^2 + [(2.5)p - (1.5)q]^2$.

Q6. Write the greatest common factor in each of the following terms :

I) $21pqr$, $-7p^2q^2r^2$, $49p^2qr$

II) $63p^2a^2r^2s$, $-9pq^2r^2s^2$, $15p^2qr^2s^2$, $-60p^2q^2rs^2$.

Q7. Factorise the following :

I) $x^2 + 4x - 77$

III) $p^2 - 13p - 30$

II) $9y^2 - 4xy + 4x^2/9$

IV) $(1/36)a^2b^2 - (16/49)b^2c^2$

Q8. The curved surface area of a cylinder is $2\pi(y^2 - 7y + 12)$ and its radius is $(y-3)$. Find the height of the cylinder.

Q9. The sum of $(x+5)$ observations is $x^4 - 625$. Find the mean of the observations.

Q10. The radius of a circle $7ab - 7bc - 14ac$. Find the area of the circle. [Use the value of π as $22/7$]