Exercise 8A

Q1

Answer :

(i) x increased by 12 is $(x+12)$.

(ii) y decreased by 7 is $(y-7)$.

(iii) The difference of a and b, when a>b is $(a-b)$.

(iv) The product of x and y is xy.

The sum of x and y is $(x+y)$.

So, product of x and y added to their sum is $xy+(x+y)$.

(v) One third of x is $\frac{x}{3}$.

The sum of a and b is (a+b).

$\therefore$ One-third of x multiplied by the sum of a and b = $\frac{x}{3} \times \left(a+b\right) = \frac{x(a+b)}{3}$

(vi) 5 times x added to 7 times y = $(5 \times x) + (7 \times y)$, which is equal to $5x + 7y$.

(vii) Sum of x and the quotient of y by 5 is $x + \frac{y}{5}$.

(viii) x taken away from 4 is $(4-x)$.

(ix) 2 less than the quotient of x by y is $\frac{x}{y} - 2$.

(x) x multiplied by itself is $x \times x = x^2$.

(xi) Twice x increased by y is $(2 \times x) + y = 2x + y$.

(xii) Thrice x added to y squared is $(3 \times x) + (y \times y) = 3x + y^2$.

(xiii) x minus twice y is $x - (2 \times y) = x - 2y$.

(xiv) x cubed less than y cubed is $(y \times y \times y) - (x \times x \times x) = y^3 - x^3$.

(xv) The quotient of x by 8 is multiplied by y is $\frac{x}{8} \times y = \frac{xy}{8}$.

Q2

Answer :

Ranjit's score in English = 80 marks

Ranjit's score in Hindi = *x* marks

Total score in the two subjects = (Ranjit's score in English + Ranjit's score in Hindi)

$\therefore$ Total score in the two subjects = (80 + *x*) marks

Q3

Answer :

(i) b × b × b × ... 15 times = b^{15}

(ii) y × y × y × ... 20 times = y^{20}

(iii) 14 × a × a × a × a × b × b × b = $14 \times \left(a \times a \times a \times a\right) \times \left(b \times b \times b\right) = 14a^4b^3$

(iv) 6 × x × x × y × y = $6 \times \left(x \times x\right) \times \left(y \times y\right) = 6x^2y^2$

(v) 3 × z × z × z × y × y × x = $3 \times \left(z \times z \times z\right) \times \left(y \times y\right) \times x = 3z^3y^2x$

Q4

Answer :

(i) $x^2y^4 = \left(x \times x\right) \times \left(y \times y \times y \times y\right) = x \times x \times y \times y \times y \times y$

(ii) $6y^5 = 6 \times \left(y \times y \times y \times y \times y\right) = 6 \times y \times y \times y \times y \times y$

(iii) $9xy^2z = 9 \times x \times \left(y \times y\right) \times z = 9 \times x \times y \times y \times z$

(iv) $10a^3b^3c^3 = 10 \times \left(a \times a \times a\right) \times \left(b \times b \times b\right) \times \left(c \times c \times c\right) = 10 \times a \times a \times a \times b \times b \times b \times c \times c \times c$

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