

Solution
Weekend Assignment
Algebraic Expressions

1) b) binomial

2) b) $(a-b)^2 = a^2 - 2ab + b^2$

3) d) $-5pq$

4) d) $4x^2y^2$

5) (d) $196p^2q^4$

6) (d) $9x^2 + 16y^2 - 24xy$

7) (c) $2a^2 + 2b^2$

8) (a) -5

9) (c) 4

10) (b) $7x$ and $9x$

11. $(x^2 - 4) + (x^2 + 4) + 16$
 $= x^2 - 4 + x^2 + 4 + 16$
 $= 2x^2 + 16$

12. $10000x = (9982)^2 - 18^2$
 $10000x = (9982 + 18)(9982 - 18)$
 $10000x = 10000 \times 9964$
 $x = \frac{10000 \times 9964}{10000}$

using $a^2 - b^2 = (a+b)(a-b)$

$x = 9964$

13. $(4x+5)^2 = 625$

$4x+5 = \sqrt{625}$

$4x+5 = 25$

$4x = 25 - 5$

$4x = 20$

$x = 5$

$\because$ area of a square = (side)²

$$\begin{aligned}
 4) \quad x + 4c(-a+b+c) &= 3a(a+b+c) - 2b(a-b+c) \\
 x + 4c(-a+b+c) &= 3a^2 + 3ab + 3ac - 2ab + 2b^2 - 2bc \\
 x + 4c(-a+b+c) &= 3a^2 + 2b^2 + ab + 3ac - 2bc \\
 x &= 3a^2 + 2b^2 + ab + 3ac - 2bc - 4c(-a+b+c) \\
 x &= 3a^2 + 2b^2 + ab + 3ac - 2bc + 4ac - 4bc - 4c^2 \\
 x &= 3a^2 + 2b^2 - 4c^2 + ab + 7ac - 6bc
 \end{aligned}$$

$$15) \quad x - \frac{1}{x} = 7$$

Squaring both the sides,

$$(a+b)^2 = a^2 + b^2 + 2ab$$

$$\left(x - \frac{1}{x}\right)^2 = (7)^2$$

$$x^2 + \frac{1}{x^2} - 2 \times x \times \frac{1}{x} = 49$$

$$x^2 + \frac{1}{x^2} - 2 = 49$$

$$x^2 + \frac{1}{x^2} = 49 + 2$$

$$x^2 + \frac{1}{x^2} = 51$$