ALGEBRAIC STATEMENTS

Task 1 – Identify each of the following statements as an expression, equation, identity, or formula.

1) $3x + 5$ expression

2) $2y - 7 = 9$ equation

3) $5(x + 2) \equiv 5x + 10$ identity

4) $A = \pi r^2$ formula

5) $4n + 3$ expression

6) $2p + 6 = 18$ equation

7) $(x + 3)^2 \equiv x^2 + 6x + 9$ identity

8) $V = \frac{4}{3}\pi r^3$ formula

9) $\frac{y}{4} - 2$ expression

10) $7x - 4 = 2x + 11$ equation

11) $a^2 - b^2 \equiv (a - b)(a + b)$ identity

12) $C = 2\pi r$ formula

13) $3(2x - 1)$ expression

14) $x^2 + 5x + 6 = 0$ equation

15) $(m + 4)^2 \equiv m^2 + 8m + 16$ identity

Task 2 – Work out the value of a that makes the following identities true.

16) $x + a \equiv x + 5$ $a = 5$

17) $x - a \equiv x - 6$ $a = 6$

18) $2x + a \equiv 2x + 9$ $a = 9$

19) $6x + a \equiv 6x - 4$ $a = -4$

20) $a(x + 4) \equiv 5x + 20$ $a = 5$

21) $a(x - 3) \equiv 7x - 21$ $a = 7$

22) $a(3x + 5) \equiv 12x + 20$ $a = 4$

23) $a(4x - 2) \equiv 20x - 10$ $a = 5$

24) $a(x + 2) \equiv 9x + 18$ $a = 9$

25) $a(5x - 7) \equiv 20x - 28$ $a = 4$

26) $a(x + 1) + 3 \equiv 7x + 10$ $a = 7$

27) $2a(x - 4) \equiv 14x - 56$ $a = 7$

28) $a(x + 3) - 5 \equiv 4x + 7$ $a = 4$

29) $3a(x - 2) + 2 \equiv 15x - 28$ $a = 5$

30) $a(2x + 5) - 7 \equiv 10x + 18$ $a = 5$

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