

Exercise 1.15 p. 21.

1 (a, b, c, h, k, m, n, o).

$$\begin{aligned} \text{a. } & x^2 - 6x + 9 \\ & = (x - 3)^2 \end{aligned}$$

$$\text{Check: } 2(x)(3) = 6x$$

$$\begin{aligned} \text{b. } & x^2 - 8x + 16 \\ & = (x - 4)^2 \end{aligned}$$

$$\text{Check: } 2(x)(4) = 8x$$

$$\begin{aligned} \text{c. } & 4x^2 + 12x + 9 \\ & = (2x + 3)^2 \end{aligned}$$

$$\text{Check: } 2(2x)(3) = 12x$$

$$\begin{aligned} \text{h. } & 9x^2 - 42xy + 49y^2 \\ & = (3x - 7y)^2 \end{aligned}$$

$$\text{Check: } 2(3x)(7y) = 42xy$$

$$\begin{aligned} \text{k. } & 16s^2 - 8s + 1 \\ & = (4s - 1)^2 \end{aligned}$$

$$\text{Check: } 2(4s)(1) = 8s$$

$$\begin{aligned} \text{m. } & 4a^2 + 9b^2 - 12ab \\ & = 4a^2 - 12ab + 9b^2 \\ & = (2a - 3b)^2 \end{aligned}$$

$$\text{Check: } 2(2a)(3b) = 12ab$$

$$\begin{aligned} \text{n. } & 2x^2 - 4xy + 2y^2 \\ & = 2(x^2 - 2xy + y^2) \\ & = 2(x - y)^2 \end{aligned}$$

$$\text{o. } p^2x + 4pqx + 4q^2x$$

$$= x(p^2 + 4pq + 4q^2)$$

$$= x(p + 2q)^2.$$

