

1. Expand and simplify the following:

(a) $(x + 1)(x + 2)(x + 3)$

(b) $(x + 3)^3$

(c) $(x - 2)(x - 3)(x - 4)$

(d) $x(x - 2)(x + 2)$

(e) $(2 - x)(3 - x)(4 - x)$

(f) $(y + 1)(4 - y)(3 + y)$

(g) $(a + b)(b + c)(a + c)$

2. The base and height of a rectangle is $x + 3$ and $3x - 2$.

(a) Find an expression for the perimeter of the rectangle.

(b) Find an expression for the area of the rectangle.

3. The length, width and height of a cuboid are $x + 1$, $2x - 2$ and $10 - x$.

(a) Find an expression for the volume of the cuboid. Expand and simplify your answer.

(b) Find an expression for the surface area of the cuboid. Expand and simplify your answer.

4. Find the area and circumference of a circle with radius $x + 2$. Expand and simplify your answer.