1. Answer each of the following questions, showing all working.

(a) Simplify \( \frac{x^2z^{-1}}{x^3z^{-3}} \).

(b) Simplify \( x^{-3}x^{-2}y^3 + (x^0y^0) \times y^2 \).

(c) Solve \(-2x + 2 < 3x - 3\) and write your answer in interval format.

(d) Expand and simplify \( \sum_{i=2}^{5} -2iz \).

(e) Expand and simplify \( \sum_{i=2}^{6} (-1)^i i \).

(f) Write in summation notation: \( \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{7} + \frac{1}{8} \).

(g) Find \( x \) if \( \sum_{i=-2}^{0} xi = 0 \).

(h) Find \( x \) if \( \sum_{i=-2}^{-1} 2x = 8 \).

(i) Find \( x \) if \( x = \sum_{i=-1}^{0} 3i \).

2. Answer each of the following questions, showing all working.

(a) Simplify \( \frac{x^{-1}y^1}{x^3z^2} \).

(b) Simplify \( x^2z^1y^3 \div (x^0y^0) \times y^0 \).

(c) Solve \( 3x + 4 \leq 2x - 2 \) and write your answer in interval format.

(d) Expand and simplify \( \sum_{i=2}^{6} -4iz \).

(e) Expand and simplify \( \sum_{i=2}^{5} (-1)^i i \).

(f) Write in summation notation: \( \frac{-2}{4} + \frac{-2}{5} + \frac{-2}{6} + \frac{-2}{7} \).

(g) Find \( x \) if \( \sum_{i=0}^{3} xi = -12 \).

(h) Find \( x \) if \( \sum_{i=2}^{4} 2x = -12 \).

(i) Find \( x \) if \( x = \sum_{i=2}^{3} 3i^2 \).