1. Solve the following inequalities and express your answer in interval notation.

(a) $3x \leq 4$

(b) $-2x \leq 5$

(c) $3x + 7 \geq 2$

(d) $2 - 3x \geq 6$

(e) $3x - 2 \geq 0$

(f) $2x + 5 \geq 3x$

(g) $2x - 3 \leq 4x - 7$

(h) $\frac{3x}{2} - 5 \leq \frac{2x}{5} + 9$

(i) $\frac{2x}{3} - 2 \leq \frac{7}{5} - \frac{2}{3}$

(j) $3 \leq x - 2 \leq 5$

(k) $4 \leq 2x - 7 < 7$

(l) $12 \geq 5x + 2 > 9$

Answers

1. (a) $x \in \left(-\infty, \frac{4}{3}\right]$ (b) $x \in \left[-\frac{5}{2}, \infty\right)$ (c) $x \in \left[-\frac{5}{3}, \infty\right)$

   (d) $x \in \left(-\infty, -\frac{4}{3}\right]$ (e) $x \in \left[\frac{2}{3}, \infty\right)$ (f) $x \in (-\infty, 5]$

   (g) $x \in [2, \infty)$ (h) $x \in \left(-\infty, \frac{140}{11}\right]$ (i) $x \in \left(-\infty, \frac{41}{10}\right]$

   (j) $x \in [5, 7]$ (k) $x \in \left[\frac{11}{2}, 7\right)$ (l) $x \in \left(\frac{7}{5}, 2\right]$