

Additional Mathematics Exercise 2 Answers

(Linear and Quadratic Inequalities)

1. (a) no solution (b) $x \leq 1$ (c) all real numbers
(d) $x < -3$
2. $-4, -3, -2, -1$
3. $x \leq 6$
4. (a) $-7 < x < 1$ (b) $-\frac{1}{2} < x < 3$ (c) $x \geq \frac{3}{2}$ or $x \leq -\frac{3}{2}$
5. (a) $-4 < x < 5$ (b) $0 < x < \frac{8}{5}$ (c) $x < -3$ or $x > \frac{5}{2}$
6. (a) $x < 1$ or $x > \frac{5}{3}$ (b) $-\frac{1}{4} < x < 3$
7. (a) no solution (b) all real numbers except 1
(c) all real numbers except $\frac{5}{3}$ (d) $x > -\frac{3}{5}$ or $x < -2$
(e) no solution (f) $x = 7$
8. (a) $x \leq -\frac{5}{3}$ or $x > \frac{9}{2}$ (b) $-1 < x \leq 2$ or $8 \leq x < 9$
(c) $-4 \leq x < 9$
9. greatest: $\frac{3}{2}$; smallest: -1
10. $-7 < k < 13$
11. no solution
12. (a) $\lambda < 2$ or $\lambda > 14$ (b) $-2 < \lambda < \frac{3}{2}$
13. (a) $(4y)x^2 - 3x + (y+2) = 0$ (b) (i) $-\frac{9}{4} \leq x \leq \frac{1}{4}$ (ii) $\frac{9}{4}$