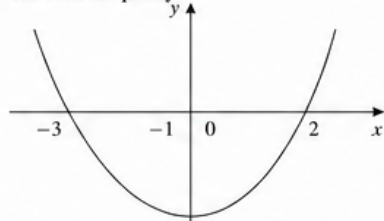


Name: _____ Date: _____

1. Use the graph of $y = f(x)$ to solve each inequality:



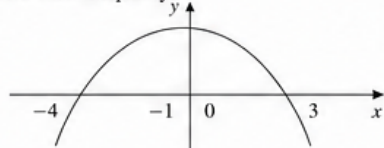
(a) $f(x) > 0$

$x < -3$ or $x > 2$ (1)

(b) $f(x) \leq 0$

$-3 \leq x \leq 2$ (1)

2. Use the graph of $y = f(x)$ to solve each inequality:



(a) $f(x) > 0$

$-4 < x < 3$ (1)

(b) $f(x) \leq 0$

$x \leq -4$ or $x \geq 3$ (1)

3. Solve $x^2 + 5x + 6 > 0$

$x < -3$ or $x > -2$ (3)

4. Solve $x^2 - 7x + 12 < 0$

$3 < x < 4$ (3)

5. Solve $x^2 + x - 12 \leq 0$

$-4 \leq x \leq 3$ (3)

6. Solve $x^2 - 9x + 20 \geq 0$

$x \leq 4$ or $x \geq 5$ (3)

7. Solve $x^2 - 4x - 12 < 0$

$-2 < x < 6$ (3)

8. Solve $x^2 + 2x - 15 > 0$

$x < -5$ or $x > 3$ (3)

9. Solve $2x^2 + 7x + 3 > 0$

$x < -3$ or $x > -\frac{1}{2}$ (3)

10. Solve $3x^2 - 14x + 8 < 0$

$2 < x < \frac{4}{3}$ (3)

11. Solve $5x^2 + 11x - 12 \leq 0$

$-3 \leq x \leq \frac{4}{5}$ (3)

12. Solve $x^2 + 3x > 10$

$x < -5$ or $x > 2$ (3)

13. Solve $2x^2 - 5x + 1 < 7$

$-1 < x < 3$ (3)

14. Solve $3x^2 + 4 > 10x$

$x < \frac{2}{3}$ or $x > 2$ (3)

15. Solve $x^2 + 4x - 7 > 0$

$x < -7$ or $x > 3$ (3)

16. Solve $2x^2 + 3x - 4 < 0$

$-2 < x < 1$ (3)

17. Solve $3x^2 - 2x - 5 \leq 0$

$-1 \leq x \leq \frac{5}{3}$ (3)

18. A rectangle has width x cm and length $x+5$ cm.

Its area is less than 84 cm^2 .

Form and solve an inequality for x .

$-12 < x < 7$ (4)

19. A ball is thrown upwards.

Its height, h metres, after t seconds is modelled by: $h = -5t^2 + 20t + 3$

Work out when the ball is above 15 m.

$0.21 < t < 1.79$ seconds (approx.) (4)

20. Find the set of possible values of x for which

$x^2 - 5x + 6 > 0$ and $x < 5$

$x < 2$ (4)

21. Find the set of possible values of x for which

$x^2 + x - 12 \leq 0$ and $x > 0$

$0 < x \leq 3$ (4)

