

Name: _____

Exam Style Questions



Quadratic Inequalities

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 378



1. Solve the inequality $x^2 + 6x + 8 < 0$

$$(x + 2)(x + 4) = 0$$
$$x = -2 \quad x = -4$$

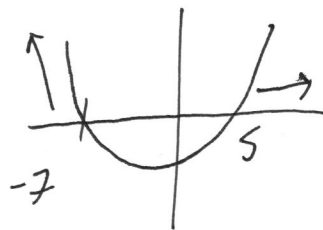


$$\underline{-4 < x < -2}$$

(3)

2. Solve the inequality $x^2 + 2x - 35 > 0$

$$(x + 7)(x - 5) = 0$$
$$x = -7 \quad x = 5$$



$$\underline{x < -7 \text{ or } x > 5}$$

(3)

3. Solve the inequality $x^2 - 9x + 14 \leq 0$

$$(x - 7)(x - 2) = 0$$
$$x = 7 \text{ or } x = 2$$

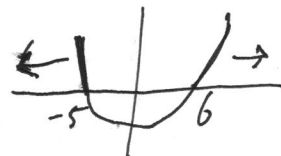


$$\underline{2 \leq x \leq 7}$$

(3)

4. Solve the inequality $x^2 - x - 30 \geq 0$

$$(x - 6)(x + 5) = 0$$
$$x = 6 \quad x = -5$$



$$\underline{x \leq -5 \text{ or } x \geq 6}$$

(3)

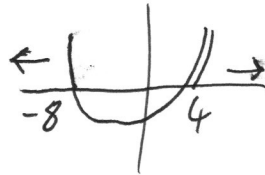
5. Solve the inequality $x^2 > 4(8 - x)$

$$x^2 > 32 - 4x$$

$$x^2 + 4x - 32 > 0$$

$$(x+8)(x-4) = 0$$

$$x = -8 \quad x = 4$$



$$\underline{x < -8 \text{ or } x > 4}$$

(4)

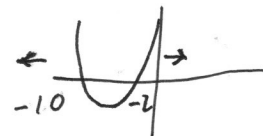
6. Solve the inequality $3x^2 - 5x - 1 < 4x^2 + 7x + 19$

$$0 < x^2 + 12x + 20$$

$$x^2 + 12x + 20 > 0$$

$$(x+2)(x+10) > 0$$

$$x = -2 \quad x = -10$$



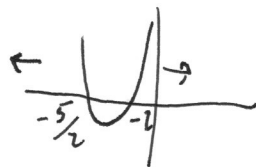
$$\underline{x < -10 \text{ or } x > -2}$$

(4)

7. Solve the inequality $2x^2 + 9x + 10 > 0$

$$(2x + 5)(x + 2) = 0$$

$$x = -\frac{5}{2} \quad x = -2$$



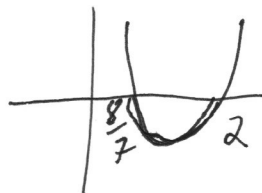
$$\underline{x < -\frac{5}{2} \text{ or } x > -2}$$

(4)

8. Solve the inequality $7x^2 - 22x + 16 \leq 0$

$$(7x - 8)(x - 2) = 0$$

$$x = \frac{8}{7} \text{ or } x = 2$$



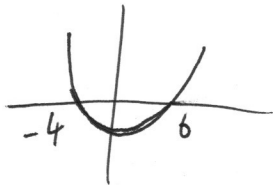
$$\underline{\frac{8}{7} \leq x \leq 2}$$

(4)

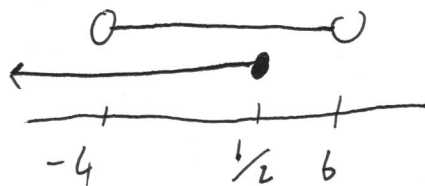
9. Find the set of values of x for which $x^2 - 2x - 24 < 0$ and $12 - 5x \geq x + 9$

$$(x - 6)(x + 4) = 0$$

$$x = 6 \quad x = -4$$



$$-4 < x < 6$$



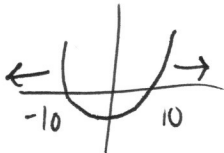
$$-4 < x \leq \frac{1}{2}$$

(6)

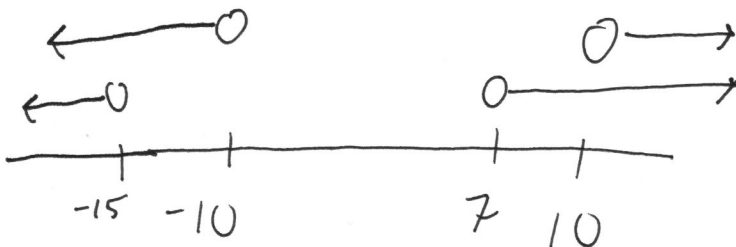
10. Find the set of values of x for which $x^2 - 100 > 0$ and $x^2 + 8x - 105 > 0$

$$(x - 10)(x + 10) = 0$$

$$x = 10 \quad x = -10$$

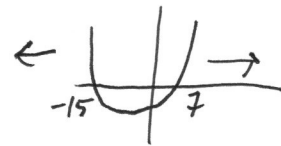


$$x < -10 \text{ or } x > 10$$



$$(x - 7)(x + 15) = 0$$

$$x = 7 \quad x = -15$$



$$x < -15 \text{ or } x > 7$$

$$x < -15 \text{ or } x > 10$$

(6)