Name:

Exam Style Questions

Quadratic Inequalities

Corbettmaths

Equipment needed: Calculator, pen, pencil & ruler

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 378

Answers and Video Solutions

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

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(3)

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

.....

(3)

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

.....

(3)

4. Solve the inequality $x^2 - 5x - 24 < 0$

.....

(3)

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5. Solve the inequality $x^2 - 121 > 0$

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(3)

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

.....

(3)

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

.....

(4)

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

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(4)

9. Solve the inequality $\frac{5x}{x^2+4} \leq 1$

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(4)

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

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(4)

11. Solve the inequality $9x^2 - 16 \leq 0$

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(3)

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12. Solve the inequality $25 < x^2 < 64$

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(3)

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

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(4)

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

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(6)

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

.....

(5)

16. The width of a rectangular field is x metres.

The length of the field is 30m longer than the width.

The perimeter of the field is less than 500m.
The area of the field is greater than 4000m²

By writing suitable inequalities, find the possible values of x.

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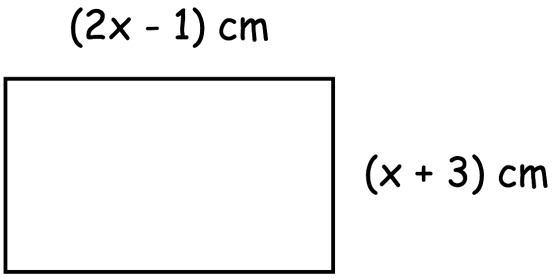
(5)

17. The area of this rectangle is greater than 40cm²



Work out the range of possible values of x

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(5)

18. Find the set of values of x for which $x^2 - 9 < 0$ **and** $3x^2 - 19x + 20 < 0$

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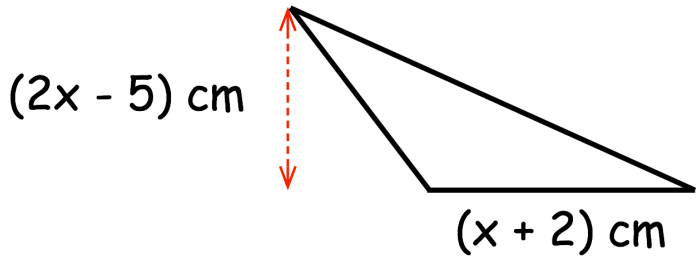
(5)

19.



(a) Write an expression for the area of the triangle.

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(1)

The area of the triangle is greater than 80.5cm²

(b) Show that $2x^2 - x - 171 > 0$

(2)

(c) Find the possible range of values of x.

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(2)