Name:

Exam Style Questions

Simultaneous Equations Linear and Non-linear

Corbettmaths

Equipment needed: Pen, Calculator

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 298

Answers and Video Solutions

1. Solve the equations

$$x^2 + y^2 = 20$$

$$x + y = 6$$

.....

(4)

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2. Solve the equations

$$xy = 24$$

$$x = y - 2$$

.....

(4)

3. Solve the simultaneous equations

$$2x - y = 7$$

$$xy = 15$$

.....

(4)

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4. Solve the equations

$$x^2 + y^2 = 17$$

$$x + 4y = 0$$

.....

(4)

5. Solve the equations

$$x + 2y = 3$$

$$x^2 + 3xy = 10$$

.....

(4)

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6. Solve the equations

$$2x + y = 11$$

$$2x^2 - y^2 = 23$$

.....

(4)

7. Solve the equations

$$x^2 + y^2 = 25$$

$$x + y = 7$$

.....

(5)

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8. Find the coordinates of the points where the line $y = 2x - 2$ and the curve $y = x^2 - 5$ intersect.

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(5)

9. Solve the equations

$$x^2 - y^2 = 7$$

$$2y = 2 + x$$

.....

(5)

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10. How many points of intersection does the circle $x^2 + y^2 = 18$ have with the line $x + y = 6$?

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(5)

11. Solve the equations

$$x^2 + y^2 = 45$$

$$5x - 3y = 21$$

Give your answers to 1 decimal place.

.....

(5)

12. Find the coordinates of the points where the line $y = 3x - 3$ and the curve $y = 2x^2 - 8x + 2$ intersect.

.....

(5)

13. Solve the equations

$$y = 3x^2 + 8x - 9$$

$$2x + y = 15$$

Give your answers to 1 decimal place.

.....

(5)