

HOMWORK ANSWERS:

SIMULTANEOUS EQUATIONS

SPIRAL ANSWERS

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| <p>S1. $5x - 3 = 2x + 9$ $x = 4$</p> | <p>S2. Represent $x \leq 3$ on a number line</p> |
| <p>S3. Complete the square for $x^2 + 6x + 5$</p> | <p>S4. Calculate the probability of rolling two sixes on a fair die</p> |
- Closed circle at 3 with arrow extending left
- 1/36

DEVELOP ANSWERS

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|---|--|
| <p>1. $x + y = 7; x - y = 3$ $(5, 2)$</p> | <p>2. $2x + y = 10; x - y = 2$ $(4, 2)$</p> |
| <p>3. $3x + 2y = 16; x - y = 2$ $(4, 2)$</p> | <p>4. $4x + 3y = 25; 2x - y = 5$ $(5, 5)$</p> |
| <p>5. $5x - 2y = 11; x + y = 7$ $(3, 4)$</p> | <p>6. $3x + 4y = 18; 2x + 3y = 13$ $(2, 3)$</p> |

7. $6x - 5y = 7;$
 $3x + 2y = 14$ | (4, 1)
9. $\frac{2}{3}x + \frac{1}{2}y =$
 $5; \frac{1}{4}x - \frac{1}{3}y =$ | (6, 6)
11. $\frac{1}{5}x + 2y =$
 $29; 3x - 4y =$ | (5, 2)
13. $\frac{9}{4}x + 5y =$
 $22; 3x + 2y$ | (1, 4)
15. $\frac{11}{9}x + 4y =$
 $30; 6x - 5y =$
12 | (2, 3)
17. $x + 4y = 19;$
 $3x - y = 8$ | (3, 4)
19. $6x + 7y =$
 $45; 3x - 4y =$ | (6, 3)
21. $\frac{6}{0.2}x + 0.3y$
 $= 1.8; 0.4x -$
 $0.1y = 2.6$ | (5, 4)
23. $2(x + 1) = y$
 $- 3; 5(y - 2) =$
 $3x + 4$ | (2, 9)
25. $x + y/2 = 7;$
 $2x/3 - y = 1$ | (3, 8)
27. $0.3x + 0.4y$
 $= 3.8; 0.5x -$
 $0.2y = 2.4$ | (4, 7)
29. $4x + 3y = 2x$
 $- y + 16; 5(y$
 $- 2x) = 3(4 -$
 $x)$ | (2, 4)
8. $0.5x + y = 4;$
 $1.5x - 2y = 3$ | (4, 2)
10. $x + 3y = 14;$
 $2x - y = 7$ | (5, 3)
12. $7x - 3y = 25;$
 $2x + 5y = 24$ | (4, 1)
14. $8x - 3y = 1;$
 $5x + 2y = 20$ | (2, 5)
16. $10x + 3y =$
 $41; 4x - 7y =$
-25 | (2, 7)
18. $2x + 5y =$
 $38; 5x - 3y =$ | (4, 6)
20. $\frac{14}{x/2} + y/3 = 4;$
 $x/4 - y/5 = 1$ | (8, 6)
22. $3x + 2y = 5x$
 $- y + 1; 4y -$
 $x = 2x + 3$ | (1, 3)
24. $5x - 3(y + 2)$
 $= 7; 2(x + 4)$
 $+ 4y = 20$ | (3, 2)
26. $3(x - 1) =$
 $2(y + 2); 4(y$
 $- 3) = 5(x +$
 $\frac{1}{2}x/5 + 3y/4$
 $= 7; 5x/2 -$
 $y/3 = 11$ | (5, 4)
28. $\frac{1}{2}x/5 + 3y/4$
 $= 7; 5x/2 -$
 $y/3 = 11$ | (10, 4)
30. x^2
-
 y
=

APPLY ANSWERS

- A1.** Two numbers sum to 25 and differ by 7. Find them. | 16 and 9
- A2.** A rectangle has perimeter 30cm and area 54cm^2 . Find its dimensions. | 9cm by 6cm
- A3.** 3 apples and 2 bananas cost £1.40. 2 apples and 5 bananas cost £2.20. Find each fruit's cost. | Apple: 20p, Banana: 40p
- A4.** John is twice as old as Sarah. In 5 years, their combined age will be 50. Find their current ages. | John: 20, Sarah: 10
- A5.** A car travels 300km. At 10km/h faster, it would take 1 hour less. Find original speed. | 50km/h
- A6.** 50p and 20p coins total £7.60. There are 23 coins. How many of each? | 12 50p, 11 20p
- A7.** Two machines make 600 parts in 3 hours. One is twice as fast. How long would each take alone? | Faster: 4.5h, Slower: 9h
- A8.** A 10% acid mix is combined with 30% acid to make 5 litres of 22% acid. Find each quantity used. | 2 litres 10%, 3 litres 30%
- A9.** A boat travels 15km upstream and 20km downstream in 5 hours. Current speed is 2km/h. Find boat speed. | 7km/h
- A10.** Three consecutive integers have a product of 210. Find the integers. | 5, 6, 7