Simultaneous Equations – Exam Style Questions

1. Solve the simultaneous equations:

   $5x + 3y = 41$

   $2x + 3y = 20$

2. Solve the simultaneous equations:

   $5x + y = 11$

   $3x - y = 9$

3. Solve the simultaneous equations:

   $x + 7y = 64$

   $x + 3y = 28$

4. Solve the simultaneous equations:

   $4x - 4y = 24$

   $x - 4y = 3$

5. Solve the simultaneous equations:

   $2x + 4y = 14$

   $4x - 4y = 4$

6. David buys 2 scones and 2 coffees for £18. Ellie buys 3 scones and 2 coffees for £22. Form

two equations and solve for the cost of each scone and each coffee.

7. Alan and Connor have £6.70 in total. Alan has £1.70 more than Connor. Let a = Alan's

money, c = Connor's money. Set up and solve simultaneous equations.

8. Solve the simultaneous equations:

$6x + y = -2$

$6x - 3y = 14$

9. Solve the simultaneous equations:

$2x + 4y = 26.$

$3x - y = 4$

10. Solve the simultaneous equations (no trial and improvement):

$3x + 2y = 16$

$2x - 3y = 2$

11. Solve the simultaneous equations: $3x - 2y = 14$

$x + 2y = 10$

12. Solve the simultaneous equations:

$3x + 5y = 1$

$2x - 3y = 7$

13. Solve the simultaneous equations:

$3x - y = 23$

$2x + 3y = 8$

14. Solve the simultaneous equations:

$2y - 5x = 9$

$4y + 3x = 5$

15. Solve the simultaneous equations:

$2x + 9y = 43$

$3x + 2y = 7$

16. Solve the simultaneous equations:

5x – 3y = 24

2x – 4y = 4

17. A museum sells adult and child tickets. Fozia buys 4 adult + 1 child ticket for £120. Sami

buys 5 adult + 3 child tickets for £171. Work out the cost of each ticket.

18. Solve the simultaneous equations:

4x + 3y = 7.5

3x – 5y = 10.7

19. Solve the simultaneous equations:

2x + 8y = 27

2y = 8x + 11

20. Find the coordinates of the intersection point:

y – 3x = 3

x – 2y = 4

21. Solve the simultaneous equations:

3a + c = 8

2a − c = 7

22. Solve the simultaneous equations:

9x − 6y = 114

5x − 9y = 30.75

23. Solve the simultaneous equations:

2y = x + 10

y = 2x − 7

24. Solve the simultaneous equations:

4x − y = 17

y = x − 2

25. Three bananas + two pears cost £2.07. Five bananas + three pears cost £3.33. Find the

cost of ten bananas and ten pears.

26. Solve the simultaneous equations:

$5x + 2y = -34$

$4x - 3y = -41$

27. Albie jogs route A nine times and route B five times in April. Route B is 8 miles longer than route A. Total distance = 89 miles. In May, he jogs route C, which is 20% longer than route B. Work out the length of route C.

28. Solve the simultaneous equations (in terms of c):

$6x + 2y = 13c$

$x + 2y = -2c$

29. Shown below is a parallelogram with sides:

8x + 3, 2x – 4, 13 – y, 3y + 78.

Work out the perimeter of the parallelogram.