

5

1. Expand  $(x+1)(x+4)$   
What is the co-efficient of  $x$ ?

1

2. Expand  $(x-3)(x-5)$   
What is the co-efficient of  $x^2$ ?

6

3. Factorise  $x^2-36$  What is number is in the bracket?

7

4. Factorise  $x^2 + 14x + 49$   
What is the number in the bracket?

16

5. Expand  $(x-4)(x+4)$   
What number in the solution?

25

6. What is the larger share when £35 is shared in a ratio 2:5?

8

7. What is the smaller share when £64 is shared in a ratio 2:5:1?

27

8. Write 3:81 in the form 1:n  
What is n?

20

9. If 3 pencils cost 15p, how much do 4 pencils cost?

3

10. If it takes 2 people 6 days to plaster a house, how long will 4 people take?



2

11.  $y = 2x - 9$

What is the gradient?

17

12.  $y = 9x + 17$

What is the y-intercept?

11

13.  $y - 11x + 13 = 0$

What is the gradient?

29

14.  $y - 14x - 29 = 0$

What is the y-intercept?

12

15.  $y = 5x + 2$

If  $x = 2$ , what is  $y$ ?

4

16. What is  $x$  when:

$x + y = 9$  and  $2x - y = 3$  ?

10

17. What is  $y$  when:

$3x - y = 5$  and  $7x - y = 25$  ?

30

18. If  $x + y = \sqrt{10}$ ,

What is  $3(x + y)^2$  ?

14

19. What is  $y$  when:

$2x + y = 20$  and  $x + 2y = 31$  ?

9

20. What is  $y$  when:

$x^2 + y = 10$  and  $x - y = -8$



15

21. A circle has radius  $\sqrt{5}$ .  
What is the area (use  $\pi \approx 3$ )?



21

22. A circle has diameter 7cm.  
What is the circumference?  
(use  $\pi \approx 3$ )



18

23. A semi-circle has radius  $\sqrt{12}$ .  
What is the area (use  $\pi \approx 3$ )?



24

24. A cuboid has a surface area of  $6\text{cm}^2$ . The sides are enlarged by a scale factor of 2. What is the new surface area?



22

25. A triangle has base 5cm and area  $55\text{cm}^2$ . What is the height?



13

26. What is the highest prime factor of 1638?



19

27. What is the sum of the prime factors of 420?



26

28. What is the highest common factor of 52 and 130?



28

29. What is the lowest common multiple of 14 and 4?



23

30. What prime number greater than 20 is a factor of 4600?