



SCAN ME

Surds and Brackets



SCAN ME

REVISE THIS TOPIC

CHECK YOUR ANSWERS

1 Expand and simplify $\sqrt{3}(\sqrt{6} + 5)$

[2 marks]

Answer _____

2 Expand and simplify $\sqrt{5}(3 - \sqrt{10})$

[2 marks]

Answer _____

3 Expand and simplify $\sqrt{8}(\sqrt{2} + \sqrt{5})$

[2 marks]

Answer _____

4 Expand and simplify $\sqrt{6}(\sqrt{8} + \sqrt{2})$

[3 marks]

Answer _____



For the entire booklet





5 Expand and simplify $(\sqrt{2} + 1)(\sqrt{2} + 3)$ [2 marks]

Answer _____

6 Expand and simplify $(\sqrt{5} - 2)(\sqrt{5} + 6)$ [2 marks]

Answer _____

7 Expand and simplify $(7 - \sqrt{2})(\sqrt{2} + 10)$ [2 marks]

Answer _____

8 Expand and simplify $(\sqrt{11} + 1)^2$ [2 marks]

Answer _____





9 Expand and simplify $(3\sqrt{6} + 4)(2\sqrt{6} - 5)$ [3 marks]

Answer _____

10 Expand and simplify $(\sqrt{6} + \sqrt{2})(\sqrt{6} - \sqrt{2})$ [2 marks]

Answer _____

11 $(\sqrt{5} + \sqrt{2})(\sqrt{10} - 2) = k\sqrt{2}$ where k is an integer. [3 marks]
Work out the value of k .

$k =$ _____

12 $(2\sqrt{3} + 5)(3\sqrt{3} + 5) = a + b\sqrt{3}$ where a and b are integers. [3 marks]
Work out the values of a and b .

$a =$ _____ $b =$ _____

Turn over ►





13 $\sqrt{2}(\sqrt{8} + 5) + 5(3 - \sqrt{18}) = x - y\sqrt{2}$ where x and y are integers.
Work out the values of x and y . [4 marks]

$x =$ _____ $y =$ _____

14 $3\sqrt{5}(\sqrt{15} + \sqrt{5}) + \sqrt{6}(\sqrt{8} + \sqrt{24}) = p + q\sqrt{3}$ where p and q are integers.
Work out the values of p and q . [4 marks]

$p =$ _____ $q =$ _____

15 Expand and simplify $(\sqrt{3} + 4)^3$ [4 marks]

Answer _____





16 Show clearly that $(\sqrt{3} + 2)^2 + (5 - 2\sqrt{3})^2 - (8 - \sqrt{3})^2$ is equal to an integer. [5 marks]

17 $\frac{\sqrt{10}(\sqrt{2} + \sqrt{10}) + \sqrt{3}(5\sqrt{12} + \sqrt{15})}{(\sqrt{7} + \sqrt{2})(\sqrt{7} - \sqrt{2})} = a + \sqrt{5}$ where a is an integer.

Work out the value of a [6 marks]

$a =$ _____

23

