1. Express $\frac{6}{\sqrt{2}}$ in the form $a\sqrt{b}$, where a and b are positive integers.

....
(Total 2 marks)

2. Rationalise

$$\frac{1}{\sqrt{7}}$$

....
(Total 2 marks)

3.   Expand and simplify

$$(\sqrt{3} + \sqrt{15})^2$$

Give your answer in the form $n + m\sqrt{5}$, where n and m are integers.

....
(Total 4 marks)

4. Expand and simplify $\left(\sqrt{3} - \sqrt{2}\right)\left(\sqrt{3} + \sqrt{2}\right)$

....
(Total 2 marks)

5. Rationalise the denominator of $\dfrac{1}{\sqrt{3}}$

....
(Total 2 marks)

6. Expand $(2+\sqrt{3})(1+\sqrt{3})$

Give your answer in the form $a+b\sqrt{3}$ where a and b are integers.

....
(Total 3 marks)

7. Write $\frac{\sqrt{18}+10}{\sqrt{2}}$ in the form $p + q\sqrt{2}$, where p and q are integers.

$p =$ ....

$q =$ ....

(Total 4 marks)

8. Expand and simplify

$(2 + \sqrt{3})(7 - \sqrt{3})$

Give your answer in the form $a + b\sqrt{3}$, where a and b are integers.

....

(Total 3 marks)

9. Work out

$$\frac{(5+\sqrt{3})(5-\sqrt{3})}{\sqrt{22}}$$

Give your answer in its simplest form.

....

(Total 3 marks)

10. (a) Rationalise the denominator of $\dfrac{5}{\sqrt{2}}$

....

(2)

(b) Expand and simplify $(2 + \sqrt{3})^2 - (2 - \sqrt{3})^2$

....

(2)

(Total 4 marks)