

21 (a) $(3 - \sqrt{5})(2 + 3\sqrt{5}) = a + b\sqrt{5}$

Find the value of a and the value of b .

$a =$
 $b =$ [2]

(b) Rationalise the denominator.
Write your answer in its simplest form.

$$\frac{6}{\sqrt{2}}$$

..... [2]

18 Rationalise the denominator and simplify.

$$\frac{20}{4 + \sqrt{6}}$$

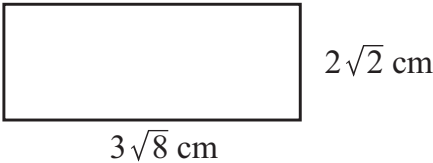
..... [3]

24 (a) Simplify.

$\sqrt{125} - \sqrt{20}$

..... [2]

(b)



NOT TO
SCALE

The area of this rectangle is $k \text{ cm}^2$.
Work out the value of k .

$k =$ [2]

(c) Rationalise the denominator.

$\frac{1}{\sqrt{7} + 2}$

..... [2]

15 (a) Expand and simplify.

$$(2 - \sqrt{5})(1 - 3\sqrt{5})$$

..... [2]

(b) Rationalise the denominator.
Give your answer in its simplest form.

$$\frac{6}{\sqrt{10}}$$

..... [2]

16 Expand and simplify.

$$(x + 4)(x - 3)(3x + 2)$$

..... [3]

18 (a) $\frac{7}{\sqrt{3}}$

Rationalise the denominator.
Give your answer in its simplest form.

..... [2]

(b) $(5 - \sqrt{2})(1 + 3\sqrt{2}) = c + k\sqrt{2}$

Find the value of c and the value of k .

$c =$

$k =$ [2]

19 Write as a single fraction in its simplest form.

(a) $\frac{5a}{6} \times \frac{3b}{a}$

..... [2]

(b) $\frac{p}{2} + \frac{3t}{4}$

..... [2]

(c) $\frac{2}{x-2} - \frac{3}{x+1}$