



# Rationalising surds (1)

Getting ready for A-Level Maths...

*"The most important investment you can make is in **yourself**."*

# Rationalising surds (1)

Making life simpler...

$$\frac{8}{0.1}$$

# Rationalising surds (1)

Making life simpler...

$$\frac{8}{\sqrt{2}}$$

# Rationalising surds (1)

## My turn

Rationalise  $\frac{1}{\sqrt{2}}$

## Your turn

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

# Rationalising surds (1)

## My turn

Rationalise  $\frac{4}{\sqrt{2}}$

Give your answer in the form  $a\sqrt{b}$   
where  $b$  is prime and state  $a$  and  $b$ .

## Your turn

Rationalise  $\frac{21}{\sqrt{7}}$

Give your answer in the form  $a\sqrt{b}$   
where  $b$  is prime and state  $a$  and  $b$ .

# Rationalising surds (1)

## My turn

Rationalise  $\frac{15}{2\sqrt{5}}$

Give your answer in the form  $a\sqrt{b}$  where  $a$  is in simplest form and  $b$  is prime. State  $a$  and  $b$ .

## Your turn

Rationalise  $\frac{14}{5\sqrt{7}}$

Give your answer in the form  $a\sqrt{b}$  where  $a$  is in simplest form and  $b$  is prime. State  $a$  and  $b$ .

# Rationalising surds (1)

## My turn

Simplify the following, giving your answer in the form  $a\sqrt{b}$ . State  $a$  and  $b$ .

$$\frac{\sqrt{54}}{3} + \frac{12}{\sqrt{6}}$$

## Your turn

Simplify the following, giving your answer in the form  $a\sqrt{b}$ . State  $a$  and  $b$ .

$$\frac{\sqrt{63}}{3} + \frac{21}{\sqrt{7}}$$

# Rationalising surds (1)

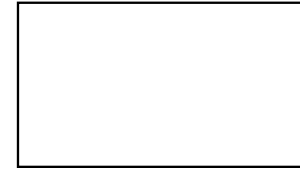
## My turn

A rectangle has an area of  $60 \text{ cm}^2$  and a width of  $\sqrt{12} \text{ cm}$ . Find the length and state your answer in the form  $a\sqrt{b}$  where  $b$  is prime.



## Your turn

A rectangle has an area of  $64 \text{ cm}^2$  and a width of  $\sqrt{32} \text{ cm}$ . Find the length and state your answer in the form  $a\sqrt{b}$  where  $b$  is prime.





# Rationalising surds (1)

## Review Exercise

1. Rationalise  $\frac{1}{\sqrt{3}}$
2. Rationalise  $\frac{35}{\sqrt{5}}$ . Give your answer in the form  $a\sqrt{b}$  where  $b$  is prime and state  $a$  and  $b$ .
3. Rationalise  $\frac{30}{4\sqrt{3}}$ . Give your answer in the form  $a\sqrt{b}$  where  $a$  is in simplest form and  $b$  is prime. State  $a$  and  $b$ .
4. Simplify the following, giving your answer in the form  $a\sqrt{b}$ . State  $a$  and  $b$ .  $\frac{\sqrt{50}}{5} + \frac{26}{\sqrt{2}}$
5. A rectangle has an area of  $80 \text{ cm}^2$  and a width of  $\sqrt{20} \text{ cm}$ . Find the length and state your answer in the form  $a\sqrt{b}$  where  $b$  is prime.

# Rationalising surds (1)

## Review Exercise (Answers)

1. Rationalise  $\frac{1}{\sqrt{3}}$   $\frac{\sqrt{3}}{3}$
2. Rationalise  $\frac{35}{\sqrt{5}}$ . Give your answer in the form  $a\sqrt{b}$  where  $b$  is prime and state  $a$  and  $b$ .  $7\sqrt{5}$   
 $a=7, b=5$
3. Rationalise  $\frac{30}{4\sqrt{3}}$ . Give your answer in the form  $a\sqrt{b}$  where  $a$  is in simplest form and  $b$  is prime. State  $a$  and  $b$ .  $\frac{5}{2}\sqrt{3}$   
 $a=\frac{5}{2}, b=3$
4. Simplify the following, giving your answer in the form  $a\sqrt{b}$ . State  $a$  and  $b$ .  $\frac{\sqrt{50}}{5} + \frac{26}{\sqrt{2}}$   $14\sqrt{2}$   
 $a=14, b=2$
5. A rectangle has an area of  $80 \text{ cm}^2$  and a width of  $\sqrt{20} \text{ cm}$ . Find the length and state your answer in the form  $a\sqrt{b}$  where  $b$  is prime.  $8\sqrt{5}$