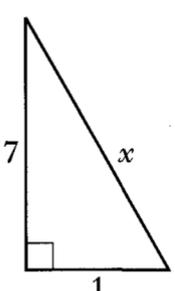
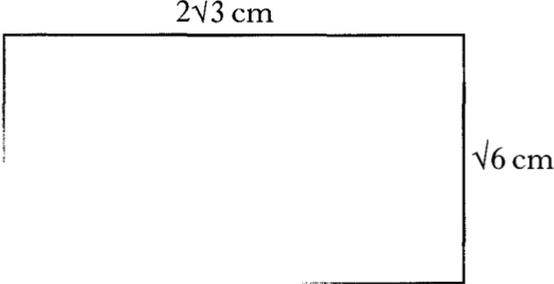


National 5 & Int. 2

Surds

2018 PI Q11	Express $\frac{9}{\sqrt{6}}$ with a rational denominator. Give your answer in its simplest form.	2
Ans	$\frac{3\sqrt{6}}{2}$	
2016 PI Q9	The function $f(x)$ is defined by $f(x) = \frac{2}{\sqrt{x}}$, $x > 0$. Express $f(5)$ as a fraction with a rational denominator.	2
Ans	$f(5) = \frac{2}{\sqrt{5}}$ followed by $f(5) = \frac{2\sqrt{5}}{5}$	
2015 PI Q13	Express $\frac{4}{\sqrt{8}}$ with a rational denominator. Give your answer in its simplest form.	3
Ans	$\sqrt{2}$	
2015 PI Q10	Express $\sqrt{45} + 6\sqrt{5} - \sqrt{20}$ as a surd in its simplest form.	3
Ans	$7\sqrt{5}$	
2014 PI Q8	Express $\sqrt{40} + 4\sqrt{10} + \sqrt{90}$ as a surd in its simplest form.	3
Ans	$9\sqrt{10}$	
2012 PI Q10	Simplify $\sqrt{2}(\sqrt{3} + \sqrt{2}) - \sqrt{6}$.	2
Ans	2	

2011 P1 Q4	<p>Three of the following have the same value.</p> $2\sqrt{6}, \quad \sqrt{2} \times \sqrt{12}, \quad 3\sqrt{8}, \quad \sqrt{24}.$ <p>Which one has a different value? You must give a reason for your answer.</p>	2
Ans	$3\sqrt{8}$ with evidence	
2010 P2 Q8	<p>Express</p> $\sqrt{63} + \sqrt{28} - \sqrt{7}$ <p>as a surd in its simplest form.</p>	3
Ans	$4\sqrt{7}$	
2009 P2 Q11	<p>Express $\frac{12}{\sqrt{2}}$ with a rational denominator. Give your answer in its simplest form.</p>	2
Ans	$6\sqrt{2}$	
2008 P2 Q7b	<p>Express</p> $2\sqrt{5} + \sqrt{20} - \sqrt{45}$ <p>as a surd in its simplest form.</p>	3
Ans	$\sqrt{5}$	
2007 P1 Q9	<p>A right-angled triangle is shown below.</p>  <p>Using Pythagoras' Theorem, find x. Express your answer as a surd in its simplest form.</p>	3
Ans	$5\sqrt{2}$	

2006 P1 Q10	 <p>The rectangle above has length $2\sqrt{3}$ centimetres and breadth $\sqrt{6}$ centimetres. Calculate the area of the rectangle. Express your answer as a surd in its simplest form.</p>	3
Ans	$6\sqrt{2}$	
2005 P2 O10a	Express $\frac{7}{\sqrt{2}}$ as a fraction with a rational denominator.	2
Ans	$\frac{7\sqrt{2}}{2}$	
2004 P1 O6b	Express $\sqrt{12} + 5\sqrt{3} - \sqrt{27}$ as a surd in its simplest form.	3
Ans	$4\sqrt{3}$	
2003 P1 O6a	Express $\frac{\sqrt{40}}{\sqrt{2}}$ as a surd in its simplest form.	2
Ans	$2\sqrt{5}$	
2002W P1 O5a	Express $\frac{10}{\sqrt{5}}$ with a rational denominator. Give your answer in its simplest form.	2
Ans	$2\sqrt{5}$	
2002 P1 O7a	Express $\sqrt{45} - 2\sqrt{5}$ as a surd in its simplest form.	2
Ans	$\sqrt{5}$	
2001 P1 O8b	Express $\sqrt{18} - \sqrt{2} + \sqrt{72}$ as a surd in its simplest form.	3
Ans	$8\sqrt{2}$	