N11 Sheet 1 – *True or false?*

$\sqrt{9} + \sqrt{4} = \sqrt{13}$	$\sqrt{2} = 1.4142136$
$\sqrt{3} \times \sqrt{3} = 3$	$\sqrt{2} = 1.414213562$
$\sqrt{9} \times \sqrt{4} = \sqrt{36}$	$\sqrt{2} = 1.4142$
$\sqrt{2} \times \sqrt{2} \times \sqrt{2} = 2\sqrt{2}$	$\sqrt{9} - \sqrt{4} = \sqrt{5}$
$4\sqrt{3} + 5\sqrt{3} = 9\sqrt{3}$	$\dfrac{\sqrt{36}}{\sqrt{4}} = \sqrt{9}$
$2\sqrt{3} \times 4\sqrt{3} = 8\sqrt{3}$	

***a*, *b*, *x* and *y* are positive integers.**

Fill in = or ≠

$\sqrt{a} + \sqrt{b}$	$\sqrt{a + b}$	$\sqrt{x^2} + \sqrt{y^2}$	$x + y$
$\sqrt{a} - \sqrt{b}$	$\sqrt{a - b}$	$\sqrt{x^2 + y^2}$	$x + y$
$\sqrt{a} \times \sqrt{b}$	$\sqrt{ab}$	$\sqrt{x^2} \times \sqrt{y^2}$	xy
$\sqrt{\dfrac{a}{b}}$	$\dfrac{\sqrt{a}}{\sqrt{b}}$	$\sqrt{\dfrac{x^2}{y^2}}$	$\dfrac{x}{y}$

Show that $\left(\sqrt{3} + 2\right)\left(\sqrt{3} + 4\right) = 11 + 6\sqrt{3}$

1

Show that $\left(\sqrt{5} - 2\right)\left(\sqrt{5} + 3\right) = \sqrt{5} - 1$

2

Show that $\left(2\sqrt{3} - 1\right)\left(2\sqrt{3} + 1\right) = 11$

3

Show that $\sqrt{18} \times \sqrt{2} - \sqrt{2} \times \sqrt{50} = -4$

4

Show that $\sqrt{3} + 2\left(3\sqrt{3} - 1\right) = 7\sqrt{3} - 2$

5

Show that $\left(\sqrt{3}\right)^2 + \left(3\sqrt{2}\right)^2 = 21$

6

$\sqrt{18} = 3\sqrt{2}$	$\sqrt{72} = 6\sqrt{2}$
$\sqrt{45} = 3\sqrt{5}$	$\sqrt{50} = 5\sqrt{2}$
$\sqrt{32} = 4\sqrt{2}$	$\sqrt{90} = 3\sqrt{10}$
$\sqrt{28} = 2\sqrt{7}$	$\sqrt{54} = 3\sqrt{6}$
$\sqrt{20} = 2\sqrt{5}$	$\sqrt{8} = 2\sqrt{2}$
$\sqrt{128} = 8\sqrt{2}$	$\sqrt{75} = 5\sqrt{3}$
$\sqrt{63} = 3\sqrt{7}$	$\sqrt{48} = 4\sqrt{3}$

N11 Card set B – *Surd dominoes*

Note: there are twenty dominoes in the set

$\sqrt{8}$	$\sqrt{18} + 3\sqrt{2}$	$3\sqrt{2}$	$\sqrt{90}$
$\sqrt{80}$	$\dfrac{\sqrt{50}}{5}$	$6\sqrt{2}$	$2\sqrt{3} \times 5\sqrt{3}$
$\sqrt{2}$	$\dfrac{\sqrt{72}}{\sqrt{3}}$	$12\sqrt{6}$	$\sqrt{40} \times \sqrt{90}$
$3\sqrt{10}$	$\dfrac{\sqrt{54}}{\sqrt{6}}$	60	**Finish**
40	$\dfrac{\sqrt{84}}{2}$	$2\sqrt{6}$	$\sqrt{8} + \sqrt{2}$
9	$\dfrac{8 + \sqrt{48}}{4}$	$5 + 2\sqrt{6}$	$\left(\sqrt{3}\right)^{4}$
30	$\sqrt{8} \times \sqrt{50}$	3	$\sqrt{128}$
Start	$\sqrt{3}\left(2\sqrt{3} - 1\right)$	20	$\sqrt{10} \times \sqrt{8}$
$2 + \sqrt{3}$	$3\sqrt{2} \times 4\sqrt{3}$	$8\sqrt{2}$	$2\sqrt{5} \times 4\sqrt{5}$
$6 - \sqrt{3}$	$2\sqrt{2}$	$\sqrt{21}$	$\left(\sqrt{3} + \sqrt{2}\right)^{2}$