

Year Ten Number System Homework Sheet 1 2016

Name: _____ Due Date: _____

1. What is another word for surd?

2. Simplify the following surds

a) $\sqrt{45}$

b) $\sqrt{200}$

c) $\sqrt{72}$

d) $2\sqrt{125}$

e) $3\sqrt{68}$

f) $-8\sqrt{160}$

3. Multiply the following surds and simplify

a) $\sqrt{7} \times \sqrt{7}$

b) $\sqrt{3} \times \sqrt{6}$

c) $2\sqrt{3} \times \sqrt{12}$

d) $8\sqrt{3} \times 6\sqrt{7}$

e) $-3\sqrt{6} \times 6\sqrt{4}$

f) $-2\sqrt{10} \times -4\sqrt{5}$

g) $(4\sqrt{5})^2$

h) $\sqrt{2}(\sqrt{10} - 5)$

4. Divide the following

a) $\frac{\sqrt{15}}{\sqrt{3}}$

b) $\frac{12\sqrt{6}}{4\sqrt{2}}$

c) $20\sqrt{3} \div 5\sqrt{3}$

5. Rationalise the denominator

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

b) $\frac{18}{3\sqrt{3}}$

c) $\frac{24}{7\sqrt{42}}$

6. Fractions – no calculator

a) $\frac{2}{3} + \frac{4}{5}$

b) $\frac{11}{12} \times \frac{3}{8}$

c) $\frac{2}{3} \div \frac{5}{6}$