

(C1-1.7a) Name:

Homework Questions 7 – Manipulating Surds

1. Simplify the following surds

a) $\sqrt{48}$

$$4\sqrt{3}$$

b) $\sqrt{75}$

$$5\sqrt{3}$$

c) $\sqrt{147}$

$$7\sqrt{3}$$

d) $\sqrt{1575}$

$$15\sqrt{7}$$

2. Write the following surds as simply as possible

a) $2\sqrt{12}$

$$4\sqrt{3}$$

b) $4\sqrt{24}$

$$8\sqrt{6}$$

c) $5\sqrt{18}$

$$15\sqrt{2}$$

d) $2\sqrt{27}$

$$6\sqrt{3}$$

3. Simplify the following surds

a) $\sqrt{5} + 3\sqrt{5} + 6\sqrt{5}$

$$10\sqrt{5}$$

b) $5\sqrt{2} + 7\sqrt{2} - 4\sqrt{2} + 5\sqrt{2}$

$$13\sqrt{2}$$

c) $\sqrt{28} + \sqrt{63} - \sqrt{112}$

$$\sqrt{7}$$

d) $\sqrt{50} - \sqrt{72} + \sqrt{18} - \sqrt{32}$

$$-2\sqrt{2}$$

e) $4\sqrt{3} + 5\sqrt{2} - 6\sqrt{2} - 3\sqrt{3}$

$$-\sqrt{2} + \sqrt{3}$$

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

$$\sqrt{3}$$

g) $\frac{5\sqrt{24}}{2\sqrt{50}}$

$$\sqrt{3}$$