**Worksheet 2 Simplifying and adding subtraction Radicals**

Check by calculating decimals for both the question and your answer

**ANSWERS**

$5\sqrt{3}$

$\sqrt{89}$

$30\sqrt{2}$

$2x^{2}y\sqrt{y}$

$3\sqrt[3]{4}$

$xy^{3}\sqrt[3]{x^{2}}$

$\sqrt{20}$

$\sqrt{36}$

$\sqrt{48}$

$\sqrt[3]{40}$

$\sqrt{x^{5}y}$ $11\sqrt{5}$

$4\sqrt{3}$ $-17\sqrt{2}$

$4\sqrt{5}+2\sqrt{10}$ $-\sqrt{2}+7\sqrt{6}$

$$19\sqrt[3]{6}$$

$5\sqrt[3]{2}+2\sqrt[3]{5}$

**1. Express as a mixed radical where possible (in simplest form)**

 a) $\sqrt{75}$ b) $\sqrt{89}$ c) $5\sqrt{72}$

 d) $\sqrt{4x^{4}y^{3}}$  e) $\sqrt[3]{108}$ f) $\sqrt[3]{x^{5}y^{9}}$

**2. Express as an entire radical**

 a) $2\sqrt{5}$ b) $3\sqrt{4}$ c) $4\sqrt{3}$

 d) $2\sqrt[3]{5}$ e) $x^{2}\sqrt{xy}$

**3. Simplify. Leave answers in simplest radical form.**

 a) $4\sqrt{5}+7\sqrt{5}$ b) $5\sqrt{3}-2\sqrt{3}+\sqrt{3} $

 c) $-5\sqrt{2}-6\sqrt{8}$ d) $4\sqrt{5}+2\sqrt{10}$

 e) $2\sqrt{18}-3\sqrt{6}+5\sqrt{24 }-7\sqrt{2}$ f) $2\sqrt[3]{48}+5\sqrt[3]{162}$ g) $5\sqrt[3]{2}+2\sqrt[3]{5}$

#