

Math 2201  
Sec 4.2 Worksheet Answer Key

Adding and Subtracting Radicals

1. Simplify.

a).  $2\sqrt{3} + 4\sqrt{3} + \sqrt{3}$

$7\sqrt{3}$

b).  $7\sqrt[3]{2} + 9\sqrt[3]{2} + 5\sqrt[3]{2}$

$21\sqrt[3]{2}$

c).  $-2\sqrt{5} + 7\sqrt{5} + 3\sqrt{5}$

$8\sqrt{5}$

d).  $\sqrt{13} + 5\sqrt{13} - 6\sqrt{13}$

0

e).  $7\sqrt{7} - \sqrt{7} + 8\sqrt{7}$

$14\sqrt{7}$

f).  $\sqrt[3]{5} + 3\sqrt[3]{5} - 2$

$4\sqrt[3]{5} - 2$

2. Write as mixed radicals, then simplify.

a).  $\sqrt{75} + \sqrt{150}$

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

b).  $\sqrt[3]{40} - \sqrt[3]{135}$

$-1\sqrt[3]{5}$

c).  $3\sqrt{32} - 4\sqrt{8} + 4\sqrt{50}$

$24\sqrt{2}$

d).  $3\sqrt{18} - 6\sqrt{45} - 5\sqrt{108}$

$9\sqrt{2} - 18\sqrt{5} - 30\sqrt{3}$

e).  $-5\sqrt{32} + 7\sqrt{2} - \sqrt{484}$

$-13\sqrt{2} - 22$

f).  $4\sqrt{104} - 6\sqrt{2} - \sqrt{242}$

$8\sqrt{26} - 17\sqrt{2}$

g).  $6\sqrt{36} - 6\sqrt{48} - 5\sqrt{216}$

$36 - 24\sqrt{3} - 30\sqrt{6}$

h).  $2\sqrt[3]{16} + \sqrt[3]{375} - 4\sqrt[3]{54}$

$-8\sqrt[3]{2} + 5\sqrt[3]{3}$