Practice 10.4, 10.5

Name(s)_____

Add or subtract. Assume all variables represent positive real numbers.

1) $\sqrt{3} - 6\sqrt{75} + 3\sqrt{27}$

2) $\sqrt{\frac{6}{36}} + \sqrt{\frac{384}{25}}$

Multiply, and then simplify if possible. Assume all variables represent positive real numbers.

3) $(\sqrt{7} + 5)(\sqrt{7} - 5)$

4) $(6\sqrt{5} + 3)(6\sqrt{5} + 8)$

5) $(\sqrt{x - 3} + 4)^2$

Rationalize the denominator and simplify. Assume that all variables represent positive real numbers.

6) $\frac{\sqrt{3}}{\sqrt{7}}$

7) $\frac{11}{\sqrt[3]{2}}$

8) $\frac{2}{6 - \sqrt{3}}$

9) $\frac{-3}{\sqrt{x} + 5}$

10) $\frac{6\sqrt{2} + \sqrt{6}}{3\sqrt{2} - \sqrt{6}}$

# Answers

1) $-20\sqrt{3}$

2) $\frac{53\sqrt{6}}{30}$

3) $-18$

4) $204 + 6\sqrt{55}$

5) $x + 8\sqrt{x-3} + 13$

6) $\frac{\sqrt{21}}{7}$

7) $\frac{11\sqrt[3]{4}}{\sqrt[3]{2^3}} = \frac{11\sqrt[3]{4}}{2}$

8) $\frac{12+2\sqrt{3}}{33}$

9) $\frac{-3\sqrt{x}+15}{x-25}$

10) $\frac{7+3\sqrt{3}}{2}$