Algebra Name_____

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Operations with radicals

Date_____ Period____

Simplify.

1) $-5\sqrt{54} - 2\sqrt{24} + 3\sqrt{6}$

2) $-3\sqrt{6} - 3\sqrt{24} - 5\sqrt{6}$

3) $2\sqrt{54} - 3\sqrt{24} - 2\sqrt{10}$

4) $4\sqrt{48} - 3\sqrt{10} + 2\sqrt{10}$

5) $9\sqrt{7x^3} \cdot 3\sqrt{56x^2}$

6) $3\sqrt{2a^3} \cdot -6\sqrt{28a^3}$

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7) $2\sqrt{10x^2} \cdot 6\sqrt{35x}$

8) $2\sqrt{20n^3} \cdot 7\sqrt{5n^3}$

9) $\frac{3\sqrt{4}}{3\sqrt{10}}$

10) $\frac{2\sqrt{18}}{2\sqrt{10}}$

11) $\frac{10\sqrt{9}}{4\sqrt{2}}$

12) $\frac{7\sqrt{10}}{4\sqrt{6}}$

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Answers to Operations with radicals

1) $-16\sqrt{6}$
2) $-14\sqrt{6}$
3) $-2\sqrt{10}$
4) $16\sqrt{3} - \sqrt{10}$
5) $378x^2\sqrt{2x}$
6) $-36a^3\sqrt{14}$
7) $60x\sqrt{14x}$
8) $140n^3$
9) $\frac{\sqrt{10}}{5}$
10) $\frac{3\sqrt{5}}{5}$
11) $\frac{15\sqrt{2}}{4}$
12) $\frac{7\sqrt{15}}{12}$

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