Name: _____

Operations with Radical Expressions

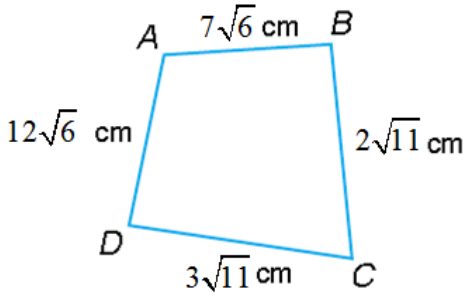
1) Simplify each expression.

1) $5\sqrt{3}+7\sqrt{3}$
2) $11\sqrt{7}+2\sqrt{7}$
3) $2\sqrt{6}+9\sqrt{6}$
4) $13\sqrt{5}-3\sqrt{5}$
5) $7\sqrt{13}-9\sqrt{13}$
6) $-11\sqrt{7}+9\sqrt{7}$
7) $-9\sqrt{11}+8\sqrt{11}$
8) $-9\sqrt{13}+9\sqrt{13}$
9) $6\sqrt{12}+3\sqrt{27}$
10) $5\sqrt{125}+3\sqrt{45}$
11) $6\sqrt{20}-4\sqrt{500}$
12) $3\sqrt{162}-5\sqrt{72}$
13) $-9\sqrt{27}-9\sqrt{75}$
14) $\sqrt{52}+\sqrt{18}-\sqrt{120}$
15) $\sqrt{105}-\sqrt{12}-\sqrt{18}$
16) $-8\sqrt{24}+6\sqrt{12}-3\sqrt{2}$
17) $4\sqrt{27}-2\sqrt{48}+3\sqrt{20}$
18) $3\sqrt{2}+7\sqrt{8}-5\sqrt{32}+2\sqrt{18}$
19) $\sqrt{3}-9\sqrt{75}-5\sqrt{300}+4\sqrt{108}$
20) $\sqrt{20}-\sqrt{180}+9\sqrt{45}+\sqrt{80}$
21) $-2\sqrt{28}+\sqrt{63}+\sqrt{175}-\sqrt{700}$
22) $9\sqrt{242}+\sqrt{98}+\sqrt{50}$

2) Expressed in simplest radical form, the product of $\sqrt{6}\cdot\sqrt{15}$

3) Express the product of $3\sqrt{20}(2\sqrt{5}-7)$ in simplest radical form.

4) Find the perimeter of ABCD. To find the exact perimeter of quadrilateral *ABCD*, you will need to add radical expressions.



5) Evaluate $B^2-\left(\sqrt{3}-x\right)A$ for $x=1$, $B=\sqrt{5}$ and $A=\sqrt{3}+x$