Math 1513 - College Algebra
Quiz #4 - 2011.08.30
Solutions

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1. Under what conditions does $A < B$ imply that $AC < BC$? Similarly, under what conditions does $A < B$ imply $AC > BC$?

For the first, we simply require $C > 0$, and for the second, $C < 0$.

2. Simplify the expression $5\sqrt[3]{54m^6} - 2m\sqrt[3]{16m^3}$.

$$
\begin{aligned}
5\sqrt[3]{54m^6} - 2m\sqrt[3]{16m^3} &= 5\sqrt[3]{2 \cdot 3^3 \cdot m^6} - 2m\sqrt[3]{2^4 \cdot m^3} \\
&= 5 \cdot 3m^2 \cdot \sqrt[3]{2} - 2m \cdot 2m \cdot \sqrt[3]{2} \\
&= 15m^2\sqrt[3]{2} - 4m^2\sqrt[3]{2} \\
&= 11m^2\sqrt[3]{2}
\end{aligned}
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