



Chapter 1 Real Numbers

Lesson 1-3 Multiply and Divide Monomials

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 Simplify $\frac{16t^4}{8t}$ using the Laws of Exponents.

$$\begin{aligned}\frac{16t^4}{8t} &= \frac{16}{8} \cdot \frac{t^4}{t} && \text{Group by common base.} \\ &= 2 \cdot t^{4-1} && \text{Divide. Subtract the exponents.} \\ &= 2 \cdot t^3 \text{ or } 2t^3 && \text{Simplify.}\end{aligned}$$

 The processing speed of a certain computer is 10^{11} instructions per second. Another computer has a processing speed that is 10^3 times as fast. How many instructions per second can the faster computer process?

To find the processing speed, multiply 10^{11} by 10^3 .

$$\begin{aligned}10^{11} \cdot 10^3 &= 10^{11+3} && \text{Add the exponents.} \\ &= 10^{14} && \text{Simplify.}\end{aligned}$$