

Section 1.3: cont'd:

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9:31 AM

additive inverse property:

$$a + (-a) = -a + a = 0$$

↖ ↗
opposites

multiplicative inverse property:

$$a \cdot \left(\frac{1}{a}\right) = \left(\frac{1}{a}\right) \cdot a = 1 \quad \text{for } a \neq 0$$

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reciprocals

division of real numbers:

$$a \div b = a \cdot \left(\frac{1}{b}\right) \quad \text{for } b \neq 0$$

examples:

$$\begin{aligned} 24 \div \left(-\frac{8}{3}\right) &= \cancel{24}^3 \left(-\frac{\cancel{3}}{\cancel{8}}\right) \\ &= 3(-3) \\ &= -9 \end{aligned}$$

$$0.4 \div 0.005 = \frac{4}{10} \div \frac{5}{1000}$$

$$= \frac{4}{\cancel{10}} \cdot \frac{\cancel{1000}^{100}}{5}$$

$$= \frac{400}{5} = 80$$

evaluate the following:

$$-|-15| = -(15) = -15$$

$$\frac{3}{4} + \frac{1}{2} \left(\frac{2}{2} \right) = \frac{3}{4} + \frac{2}{4} = \frac{5}{4}$$

$$\left(-\frac{1}{\cancel{2}} \right) \left(-\frac{\cancel{6}}{7} \right)^5 = \frac{3}{7}$$

$$(-0.2)(-0.15) = \left(-\frac{2}{10} \right) \left(-\frac{15}{100} \right) = \frac{30}{1000} = \frac{3}{100}$$

or

$$= 0.030$$

$$(300)(-0.05) = \frac{3}{\cancel{300}} \left(\frac{-5}{\cancel{100}} \right) = -15$$

$$(0.007)(0.00008) = 0.0000056$$