Multiplying & Dividing Integers

A ⊕ times a ⊕ is ⊕
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$-6 \cdot -6 = 36$
$-4 \cdot 11 = -44$
$6 \cdot -12 = -72$

Simplifying expressions:

$-4 \cdot 5x$
$-20x$

$-6(0)(-y)$
$0(-y)$
0

$(-5)(-2)(-6r)$
$(10)(-6r)$
$-60r$

Using the substitution property:

$x = -4$ $y = -5$

$3y$
$3 \cdot -5$
-15

$-xy$
$4 \cdot -5$
-20

$-5xy$
$-5 \cdot -4 \cdot -5$
$20 \cdot -5$
-100

$2(x + -3)$
$2(-4 + -3)$
$-8 + -6$
-14

Dividing Integers

* The same rules for multiplication apply:

$\ominus \div \ominus = \oplus$ $\quad -60 \div (-6) = 10$

$\oplus \div \oplus = \oplus$ $\quad 14 \div 7 = 2$

$\ominus \div \oplus = \ominus$ $\quad -27 \div 9 = -3$

$\oplus \div \ominus = \ominus$ $\quad \frac{150}{-25} = -6$

* Using the Distributive Property

$$2(6+4) = 2 \cdot 6 + 2 \cdot 4$$
$$= 12 + 8$$
$$= 20$$

$$(8+3)5 = 8 \cdot 5 + 3 \cdot 5$$
$$= 40 + 15$$
$$= 55$$

$$2(x+3) = 2x + 2 \cdot 3$$
$$= 2x + 6$$

$$(y-4)(-2) = -2y + {}^{+}8$$

These cannot be combined. They are different terms.