

#44 p. 91

$$\begin{aligned}(-5z)(-8)(z) &= (-8)(-5z)(z) \\ &= (-8)(-5)(z)(z) \\ &= +40(z \cdot z) \\ &= 40z^2\end{aligned}$$

## Distributive property of multiplication

$$a(b+c) = ab+ac$$

$$ab+ac = a(b+c)$$

## Division:

Multiplicative Inverse:  $5 \div 0 = \text{undefined}$

$$a \rightarrow \frac{1}{a}$$

Inverse property of multiplication

$$a \cdot \frac{1}{a} = 1$$

$$0 \times ? = 0$$

$$5, \frac{1}{5} \quad a=5 \quad 5 \times \frac{1}{5} = 1$$

$$\frac{2}{3}, \frac{1}{\frac{2}{3}} \quad a=\frac{2}{3} \quad \frac{2}{3} \times \frac{3}{2} = 1$$

$$\frac{1}{1} \div \frac{2}{3} = \frac{1}{1} \times \frac{3}{2} = \frac{3}{2}$$

• Division rule:

$$a \div b = a \times \frac{1}{b}$$

• Sign rules for division

$\frac{a}{b} \rightarrow$  a, b are the same sign,  
answer is +

$b \neq 0$  a, b are opposite signs,  
answer is -

$a = 0$   
answer is 0

	$a+b$	$a-b$	$a \cdot b$	$a \div b$
answer = +	$a = +$ $b = +$	$a > b, a, b = +$ $ b  > a, a = +, b = -$	$a, b$ are Same sign $\rightarrow$	$b \neq 0$
answer = -	$a = -$ $b = -$	$b > a, a, b = +$ $ a  > b, a = +, b = -$	$a$ and $b$ are opposite signs $\rightarrow$	$b \neq 0$
answer = $\emptyset$	$a = -$ $b = +$	$a = b$	$a = 0$ or $b = 0$	$a = 0$

p. 105

☆ a positive + negative, but absolute value of positive is greater than absolute value of negative

$a \geq 0$  and  
 $b \leq 0$  and  
 $|a| > |b|$

Homework:

p. 91 4, 8, 10, 14, 18, 53

p. 106 4-22 (even), 34-44 (even)