



At the Falcon 5K fun run, the cost for an adult to run is \$15 and the cost for a student is \$5. The expression $15a+5s$ represents this situation.

Find the revenue if 82 adults and 138 students participate in the run.



$$\begin{aligned} &15a + 5s \\ &15(82) + 5(138) \\ &\$1920 \end{aligned}$$



Number Properties

DEFINITION	HOW TO RECOGNIZE/REMEMBER
<p>change order & value is still the same</p>	<p>Commutate</p>
<p>EXAMPLE(S)</p>	<p>REAL LIFE USE</p>
<p>$3(4) = 4(3)$ $3+4 = 4+3$</p>	<p>driving to + from somewhere</p>

~~Commutative Property~~
~~x~~ and +

DEFINITION	HOW TO RECOGNIZE/REMEMBER
<p>changing grouping doesn't change value</p>	<p>Associate (grouping)</p>
<p>EXAMPLE(S)</p>	<p>REAL LIFE USE</p>
<p style="text-align: center;"> Associative Property </p> <p style="text-align: center;"> $3 + (4 + 5) = (3 + 4) + 5$ $3(4 \cdot 5) = (3 \cdot 4) \cdot 5$ </p>	

x and +
Cheater Property

DEFINITION	HOW TO RECOGNIZE/REMEMBER
<p>give out to everyone</p>	<p>Distribute</p>
<p>EXAMPLE(S)</p> <p>$-2(x+3)$ $-2x-6$</p> <p>$-3(x-5)$ $-3x+15$</p>	<p>REAL LIFE USE</p> <p>ex: papers calculators</p>

Distributive Property

DEFINITION	HOW TO RECOGNIZE/REMEMBER
<p>When you do the same thing to both sides of an equation</p>	
EXAMPLE(S)	REAL LIFE USE
<p>Properties of Equality</p>	

- a) Identify the property in each example shown below.
 b) Explain why it is that property.



$(3 \cdot 2) \cdot 7$
 $3 \cdot (2 \cdot 7)$
 Associative
 2 is a cheater
 commutative

$5 + 1$
 $1 + 5$
 sand + mc.
 park sw. Fch
 around

$9 \cdot (6 - 7)$
 $9 \cdot 6 - 9 \cdot 7$
 Distributive
 9 to both

$6(2 + 7x)$
 $6(7x + 2)$
 Commutative
 the 7 & 2
 changed
 order

Associative
 $(3 + 8) + 6$
 $3 + (8 + 6)$
 8 is a
 Cheater

$3(10x + 7)$
 $3 \cdot 10x + 3 \cdot 7$
 $30x + 21$
 Distributive

Distributive Property Practice**You Do**

$$\text{a) } 4(2 + a) = \underline{8 + 4a}$$

Handwritten annotations: Blue arrows point from 4 to 2 and 4 to a. Below 2 is written 4(2) and below a is written 4(a).

$$\text{b) } -3(2 + 10b) = \underline{-6 + -30b} = \underline{-6 - 30b}$$

$$\text{c) } 5(2x - 5) = \underline{10x - 25}$$

Handwritten annotations: Green arrows point from 5 to 2x and 5 to -5. Below the result is written 10x + (-25).