B: Multiplying Integers Continued

Examples:

1. A cable company offers a $10 discount per month if they sign up for telephone. How much is the annual ↑ per year discount?

$$(+\$10) \times (+12) = -\$120 \text{ per year.}$$

The annual discount is $120 per year.

2. Andrew owns 50 shares in a Company. One week the value of the share dropped by 50¢. The next week, the value of the share grew by 85¢. What was the total change in the value of Andrew's shares:

a) in the first week?

$$(+50)(-0.50) = -\$25$$

The value of his shares dropped $25 the 1st week.

b) in the second week?

$$(+50)(+0.85) = +\$42.50$$

The value of his shares rose $42.50 over the second week.

c) over the two-week period?

$$-\$25 + +\$42.50$$

$$= +\$17.50$$

The value of his shares rose $17.50 over the two-week period.

3. $+22, -17, +13, +15, -22, -14, +20, -12$

In the list of integers above identify the two integers with the greatest product.

  * Cannot be a negative product so it must be

    tive x tive -or- -ive x -ive

    $+22, +13, +15, +20$ $-17, -22, -14, -12$

    largest #'s   largest #'s not integers

    $(+22) \times (+20) = +440$ $(-17) \times (-22) = +374$

    → +22 and +20 would have the largest product.

4. Copy and each multiplication statement:

a) $(+12) \times \underline{\quad} = +36$ Answer is tive so: tive x $\overset{\text{whatsign?}}{\underline{\quad}}$ = tive

                           Sign = tive

   $(+12) \times (+\underline{\quad}) = +36$ $12 \times ? = 36 \Rightarrow 36 \div 12 = 3$ ∴ # is 3!

   $(+12) \times \boxed{(+3)} = +36$

b) $\underline{\quad} \times (-4) = -20$ Answer is -ive so: whatsign x -ive = -ive

                           sign = tive

   $(+\underline{\quad}) \times (-4) = -20$ $? \times 4 = 20 \Rightarrow 20 \div 4 = 5$ ∴ # is 5!

   $\boxed{(+5)} \times (-4) = -20$

c) ___ x (+6) = -24   what sign x -ive = -ive   sign must be -ive

(-__) x (+6) = -24   ? x 6 = 24 => 24 ÷ 6 = 4   # is 4!

$\boxed{(-4)}$ x (+6) = -24

d) (-8) x ___ = +32   -ive x what sign = tive   sign must be -ive!

(-8) x (-__) = +32   8 x ? = 32   => 32 ÷ 8 = 4 # is 4!

(-8) x (-4) = +32

Assignment Pg. 297 # 12 - 22