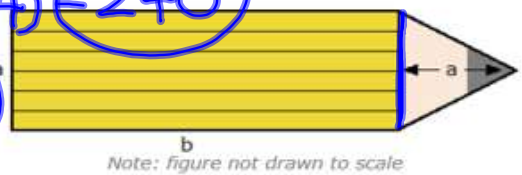
Focus – Day 18

5. Ms. Hatcher bought the pencil decoration shown below for her bulletin board.

Rectangle: (10)(24) = 240

Triangle: $\frac{1}{2}(10)(10)$ = 50



Note: figure not drawn to scale

If a = 10 in and b = 24 in, what is the area of the pencil decoration?

Area of a triangle $= \frac{1}{2}bh$
Area of a rectangle $= lw$

- A. 340 in^2
- B. 240 in^2
- C. 290 in^2
- D. 124 in^2

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Pre-Algebra ~ Section 1-9
Multiplying and Dividing Integers

Objective:

to multiply and divide integers using rules

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Key Concepts:

Multiplying Integers

signs the same -> answer is POSITIVE

signs different -> answer is NEGATIVE

Examples:

3(4) = 12

(3)(-4) = -12

3(0) = 0

(-3)(-4) = 12

(-1)(-2)(-3) = -6

2(-3)

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$\frac{12}{0}$ = undefined

Dividing Integers

signs the same - answer is POSITIVE

signs different - answer is NEGATIVE

division with 0: $\frac{0}{K} = 0$ $\frac{N}{0} \rightarrow$ undefined

Examples:

$\frac{12}{3} = 4$ $\frac{12}{(-3)} = -4$ $\frac{0}{12} = 0$ $\frac{12}{0} \rightarrow$ undefined

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- When the number of negative signs is even (only when multiplying or dividing), then the answer is positive.
- When the number of negative signs is odd, (only when multiplying or dividing), then the answer is negative.

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Example 1: Simplify the expression.

a) $(3)(-2)(-1)(-2)(2)(2)(-2)$

$(-6)(2)(4)(-2)$

$(-12)(-8)$

96

b) $(-3)(-2)(-1)(-2)(-2)(2)(-4)(1)$

$(6)(12)(16)(-4)(-4)$

6, 6, 12, 24, 48, 192

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Pre-Algebra ~ Section 1-9
Multiplying and Dividing Integers

Example 2: Simplify the expression.

a) $2(-6) \div (-3)$

$-12 \div (-3)$

4

b) $-42 \div 6(-2)$

$(-7)(-2)$

14

c) $-8(-3)(-2)(-1)$

$24\ (2)$

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d) $-5(-1)(-6) \div (-3)$

$5(-6) \div (-3)$

$(-30) \div (-3)$

10

e) $6(-3)(5) \div (-10)$

$-18(5) \div (-10)$

$-90 \div (-10)$

9

f) $-7(-14)(-13)(-15)(0)$

0

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Example 3:
Find the average: 4, –3, –5, 2, and –8

$$\frac{4+(-3)+(-5)+2+(-8)}{5}$$

$$\frac{-16+6}{5}$$

$$\frac{-10}{5}=-2$$

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Wrap It Up:

1. What is the sign of the quotient or product of two integers with the same sign?

2. What is the sign of the product or quotient of two integers with opposite signs?

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