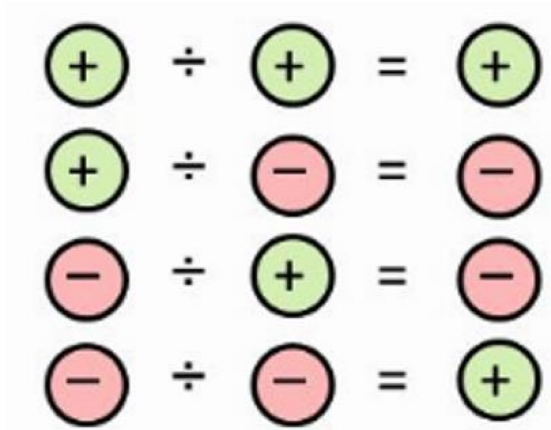


Division of Integers



Recall:

- If there is an even number of negative signs in the ^{division} ~~multiplication~~ equation, then the answer will always be positive

eg: $\frac{(-1)(-1)(-1)}{(-1)} = \frac{(1)(-1)}{(-1)} = \frac{(-1)}{(-1)} = 1$

- If there is an odd number of negative signs in the ^{division} ~~multiplication~~ equation, then the answer will always be negative

eg: $\frac{(-1)(-1)(1)}{(-1)} = \frac{(1)(1)}{(-1)} = \frac{1}{(-1)} = -1$

Practice:

① $18 \div 3$
 $= \frac{18}{3}$
 $= 6$

② $-60 \div 0$
 $= \frac{-60}{0}$
This means split -60 into 0 groups
• This is actually impossible
 $= \text{Undefined} \checkmark$
 $= \text{Error}$

③ $0 \div -60$
 $= \frac{0}{-60}$
This 0 pens split into -60 groups
 $= 0$

Anytime you have 0 in the numerator, your answer equals zero

④ $12 \div (-4)$
 $= \frac{12}{-4}$
 $= -\frac{12}{4}$
 $= -3$

Simplify the following:

$$\frac{-6(12)(-8)}{3(14)}$$

Two negative signs, so ANSWER is Positive

Factoring: to find two numbers who multiply together to give us our answer

① Factor the numerator and denominator

$$\begin{aligned} &= \frac{6(12)(8)}{3(14)} \\ &= \frac{(2)(3)(2)(2)(2)(4)}{3(2)(7)} \end{aligned}$$

② Now that we've factored, cancel numbers that are the same in the numerator & denominator

$$= \frac{\cancel{2}(\cancel{3})(2)(6)(2)(4)}{\cancel{3}(\cancel{2})(7)}$$

③ Simplify the leftover numbers as they are in lowest terms

$$\begin{aligned} &= \frac{2 \times 6 \times 2 \times 4}{7} \\ &= \frac{96}{7} = 13.71428... \end{aligned}$$

rounding
 ≈ 14
 ≈ 13.71
 ≈ 13.714

Problem:

Pretend you and 3 other people split a premium Netflix account priced at \$18.99 and agree to split the cost evenly. How much is each person required to pay?

Nathan:

Round \$18.99 → \$19

$$\rightarrow \frac{\$19}{3+1} = \frac{\$19}{4} = \$4.75 \text{ per person}$$

↑ your friends

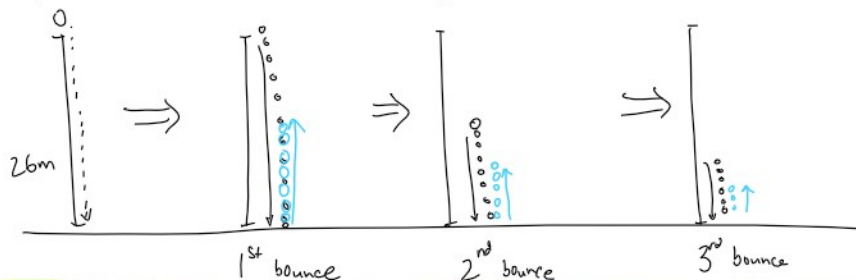
$$\frac{\$18.99}{4 \text{ people}} = \$4.7475 \text{ per person}$$

Money goes up to 2 decimal places

$$\underline{\underline{\$4.75 \text{ per person}}}$$

Problem:

A ball is dropped from a height of 26m and rebound $\frac{1}{2}$ the distance from which it fell. How high did the ball bounce after hitting the floor for the third time?



First bounce: $\frac{26}{2}$ or $26 \times \frac{1}{2} = 13\text{m}$

Second bounce: $\frac{13}{2}$ or $13 \times \frac{1}{2} = 6.5\text{m}$

Third bounce: $\frac{6.5}{2}$ or $6.5 \times \frac{1}{2} = 3.25\text{m}$

Homework: p. 67-69 #1, 2acegi, 3ace, 5aceg, 8, 9

