



Solution Guide for Chapter 3

Here are the solutions for the “Doing the Math” exercises in *Kiss My Math!*

DTM from p.47-48

2. $(-1)(-1)(-1)(-1)(-1)(-1)(7) = ?$

First, let's count the negative signs: there are 6 of them, an even number, so they'll cancel out! So this problem becomes: $(1)(1)(1)(1)(1)(1)(7) = 7$.

Answer: **7**

3. $\frac{-(-8)(-4)}{-(-2)(6)} = ?$

This expression only uses multiplication and division, so we're safe to count! Counting

negative signs, we get 4, so they will go away! This problem becomes: $\frac{(8)(4)}{(2)(6)}$. We can

either cancel factors right away, or multiply it all together and then reduce. If we

multiply it out, we get: $\frac{32}{12}$, and reducing, we get: $\frac{32 \div 4}{12 \div 4} = \frac{8}{3}$. We could also leave our

answer as a mixed number, which would be $2\frac{2}{3}$.

Answer: $\frac{8}{3}$ or $2\frac{2}{3}$

4.
$$-\left[\frac{(-1)(-1)(-2)}{(-3)(2)}\right] = ?$$

Yep, everything is stuck together with just multiplication and division, so we're safe to count! We can count a total of 5 negative signs, which is the same as one negative sign,

right? So we can rewrite this as: $-\frac{(1)(1)(2)}{(3)(2)}$. The 1's can cancel, and the 2's will cancel

each other, so we get: $-\frac{(1)(1)(2)}{(3)(2)} = -\frac{\cancel{2}}{(3)\cancel{2}} = -\frac{1}{3}$.

Answer: $-\frac{1}{3}$

5.
$$\frac{-(-5)(-3)}{(3)(-5)} - \frac{9}{(-9)} = ?$$

There is subtraction in this expression, so let's only look at the first term, which has only

multiplication and division: $\frac{-(-5)(-3)}{(3)(-5)}$, here we count a total of 3 negative signs, which is

the same as 1 negative sign: $\frac{-(-5)(-3)}{(3)(-5)} = \frac{-(-5)(3)}{(3)(5)}$. And lookie there, the factors will all

cancel away, leaving us with: $\frac{-\cancel{5}\cancel{3}}{\cancel{3}\cancel{5}} = -1$.

Okay, now for the second part: $\frac{9}{(-9)}$. The same thing happens, the 9's cancel, leaving us

with -1 . But looking above at the original problem, these two terms were being

subtracted, weren't they? So our problem has now simplified to: $-1 - (-1)$. Let's change

that double negative unto a plus sign, and we'll get:

$$-1 + 1 = 0.$$

Answer: **0**

6.
$$-\left[\frac{-(-5)(-3)}{(3)(-5)} + \frac{9}{(-9)}\right] = ?$$

Look carefully at this problem and compare it to the one above. It's very similar – the

two inside terms are just being added instead of subtracted. We learned above that:

$$\frac{-(-5)(-3)}{(3)(-5)} = -1, \text{ and also that } \frac{9}{(-9)} = -1, \text{ so our whole problem reduces to: } -[(-1) + (-1)]$$

$$= -1[-2] = 2. \text{ (Watch those negative signs!)}$$

$$\text{So, } -\left[\frac{-(-5)(-3)}{(3)(-5)} + \frac{9}{(-9)}\right] = 2.$$

Answer: **2**