

January 20th

Due Today: HW 6.8

Due Tomorrow: M&M Lab /TEST Thursday

Unit 6: Exponents and Radicals

Lesson 6.9: M&M Lab and Review

Get Ready: Get into your groups. Take out your homework packet.

**Groups:**

Caden, Matt, Huley

Rossaly, Jasmine, Zac

Monia, Alex, Maryam

Taj, Brianly, Ruby

Jaileen, Heiber, Ariana

Marley, Bridgette, Nikki

## M&M Lab

**Guiding Question:** How many rounds will it take for a plate of M&Ms to disappear if you take away all of the M&Ms that land face down each time you shake them?



## M&M Lab

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**Procedure:**



**Step 1:** Answer all of the Hypothesis Questions.

**Step 2:** Choose 1 person in your group to gather all of the materials.

**Step 3:** Count your total M&Ms. Record the total number in the table in the Trial 0 Column.

**Step 4:** Return all M&Ms to the cup. Shake them, and pour them back onto the plate.

**Step 5:** Remove all M&Ms that are face down (the M not showing) and put them into the bag.

**Step 6:** Count the remaining number of M&Ms on the plate and record the number in the table.

**Step 7:** Go back to Step 4. Repeat Steps 4-7 until all of your M&Ms are gone.

## M&M Lab

**Guiding Question:** How long will it take for a plate of M&Ms to disappear if you take away all of the M&Ms that land face down, each time you shake them?

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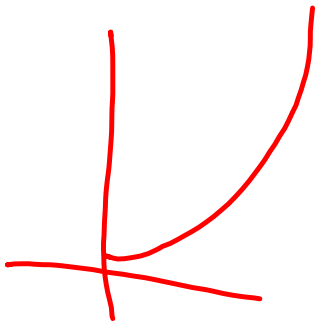
Marley, Bridgette, Nikki





exponential  
decay

50%



$2^x$

$$f(t) = A(.5)^t$$

$$f(t) = A(1-.5)^t$$

①  $4y^{-1}$

~~PMD/N~~

$-4x^4y^4 \cdot -3x^2$

$= \frac{4y^{-1}}{12x^6y^4}$

$= \frac{y^{-5}}{3x^6}$

$\frac{1}{3x^6y^5}$

-1-4

$$19) f(t) = 500 \left( \frac{1-.12}{.88} \right)^t$$

$$f(t) = 500 (.88)^{50}$$
$$= .84 \text{ mL}$$

$$23) -5\sqrt{6} \cdot \sqrt{12}$$

$$= -5\sqrt{6 \cdot 12}$$

$$= -5\sqrt{72}$$

$$= -5\sqrt{36 \cdot 2}$$

$$= -5\sqrt{36} \cdot \sqrt{2}$$

$$= -5 \cdot 6 \cdot \sqrt{2}$$

$$= -30\sqrt{2}$$



$$26) \sqrt{2}(\sqrt{3} + \sqrt{2})$$

$$\sqrt{2} \cdot \sqrt{3} + \sqrt{2} \cdot \sqrt{2} \quad (\sqrt{4} = 2)$$

$$\sqrt{6} + 2$$

$$27) \frac{4\sqrt{12}}{\sqrt{15}} = \frac{4\sqrt{4}}{\sqrt{15}} = \frac{4 \cdot 2}{\sqrt{15}} = \frac{8}{\sqrt{15}}$$

$$\frac{8}{\sqrt{15}} \cdot \frac{\sqrt{15}}{\sqrt{15}} = \boxed{\frac{8\sqrt{15}}{15}}$$

## Test

**Exponents** (Laws and Simplifying)

**Growth and Decay**

**Radicals** (simplifying, adding, subtracting, multiplying, dividing, rationalizing, simplifying with variables)

~~Solving Equations~~

Complete M&M lab and bring in Thursday--counts as a homework assignment.

$$17) \frac{y^3}{3x^6} \quad 18) \frac{b^{12}}{a^4} \quad 19) f(t) = 500(0.88)^t$$

0.84 mL remains.

$$21) 6n\sqrt{7n} \quad 22) -5\sqrt{3} \quad 23) \sqrt{6} + 2$$

$$\frac{8\sqrt{5}}{5}$$

$$25) -5\sqrt{2} \quad 26) -30\sqrt{2} \quad 27) \frac{\sqrt{2}}{5}$$

Recap

What did we do today?

Homework: