

1. Warm Up (with sequences)
2. Go over the worksheet quickly
3. Brain Break
4. Work on Closure Problems (will not be part of the HW packet)

mistake on
After Test
Assignment

$$\begin{array}{r} \cancel{768.08} \\ 786.08 \end{array}$$



per!

HW Tally

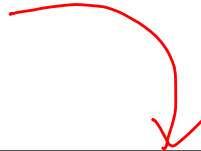
**Pick up the
Warm Up**

① In Algebra 1 of CPM
SEQUENCES ARE INTRODUCED
AS ARE EXPONENTIAL FUNCTIONS,
IN DETAIL.

② Algebra 2 has these topics
in an Appendix A, B

③ Friday and After the break
we'll continue for 3 days

The Warm Up is
about



Writing Formulas for
Geometric Sequences

Classify the sequences as Geometric, Arithmetic, or neither.

common ratio
 $r =$

common difference
 $d =$

40, 43, 46, 49, 52, ... A $d = 3$

-4, 12, -36, 108, -324, ... G $r = -3$

-29, -34, -39, -44, -49, ... A $d = -5$

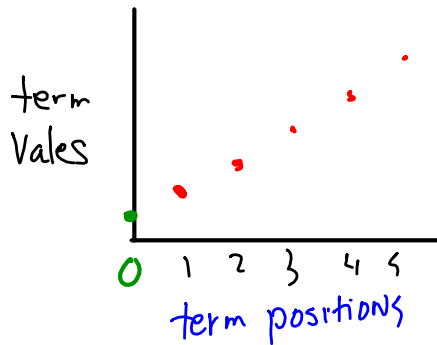
1, 4, 9, 16, 25, ... N

1, 5, 25, 125, 625, ... G $r = 5$

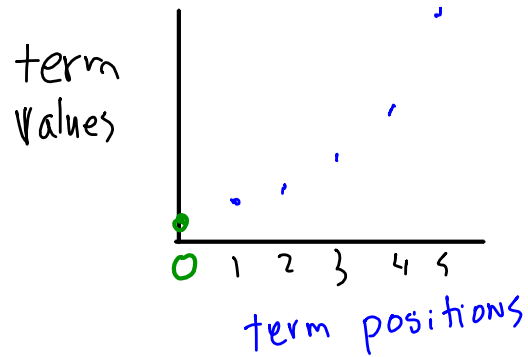
1, 5, 25, 125, 625, ...

625, 125, 25, 1, ... G $r = \frac{1}{5}$

What Arithmetic Sequences Look like



What Geometric Sequences Look like



a

Months	Rabbits
0	4
1	12
2	36
3	
4	

$$t_{20} \quad t_n =$$

$$t(20) = 4(3)^{20} \text{ or } 12(3)^{19} = 1.39 \times 10^{10}$$

zero term format $t(n) = 4(3)^n$

first term format $t(n) = 12(3)^{n-1}$

zero term format $t(n) =$

first term format $t(n) =$

b.

Months	Rabbits
0	6
1	12
2	24
3	48
4	96

What is the growth factor (or multiplier) ?

$$6 \cdot p \cdot p = 24$$

$$6p^2 = 24$$

$$\sqrt{p^2} = \sqrt{4} \quad p = 2$$

zero term format $t(n) = 6(2)^n$

first term format $t(n) = 12(2)^{n-1}$

c
 $\frac{25}{1}, \frac{30}{2}, \frac{36}{3}, \dots$

multiplier :

$$\frac{625}{36} (1.2)^n$$

zero term format $t(n) = 7.36 (1.2)^n$

first term format $t(n) = 20.8 (1.2)^{n-1}$

$$= \frac{125}{6} (1.2)^{n-1}$$

Do you
recognize ?

Factor

$$x^2 - 36 = (x+6)(x-6)$$

$$n^2 - 4 = (n+2)(n-2)$$

$$w^2 - 1 = (w-1)(w+1)$$

B)

$$5x^2 - 40$$

$$5(x^2 - 8)$$

$$5x^2 - 40x$$

$$5x(x - 8)$$

$$5x^2 - 45$$

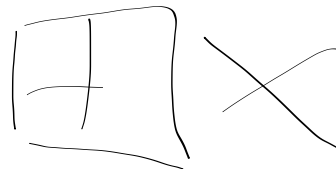
$$5(x^2 - 9)$$

$$5(x+3)(x-3)$$

$$4x^2 + 22x + 24$$

$$2(2x^2 + 11x + 12)$$

$$2(x \quad)$$



Graphing Calculator tidbits

- Mode
- Format
- Memory Re-set

Questions
on
HW

A lot of the Ch. 1 test looks like last night's HW, just saying.

d

December 18, 2019

A. Find the equation of the line that passes between the points (3, 32) and (33, 52)
(keep values exact and show work)

$$m = \frac{52 - 32}{33 - 3} = \frac{20}{30} = \frac{2}{3}$$

x-coordinate ↑

$$y = mx + b$$

$$32 = \frac{2}{3}(3) + b$$

$$32 = 2 + b$$

$$-2 \quad -2$$

$$b = 30$$

$$y = \frac{2}{3}x + 30$$

B. Factor, completely, the following four expressions (into 2 or more factors):

$$5x^2 - 40$$

=

$$5x^2 - 40x$$

=

$$5x^2 - 45$$

=

$$4x^2 + 22x + 24$$

=

=

B. Factor, completely, the following four expressions (into 2 or more factors):

$$\begin{array}{cccc}
 \begin{array}{l} 5 \text{ is} \\ \text{common} \end{array} \rightarrow 5x^2 - 40 & 5x^2 - 40x & 5x^2 - 45 & 4x^2 + 22x + 24 \leftarrow 2 \text{ common} \\
 = & = & = & = \\
 \begin{array}{l} 5(x^2 - 8) \\ \text{5 and } x \\ \text{are common} \end{array} & \begin{array}{l} 5x(x - 8) \\ \text{5 common} \end{array} & \begin{array}{l} 5(x^2 - 9) \\ \text{difference of} \\ \text{2 squares} \end{array} & \begin{array}{l} 2(2x^2 + 11x + 12) \\ 2(x+3)(x+4) \leftarrow \\ \text{completely} \\ \text{factored} \end{array} \\
 \text{5 common} & \text{5 and } x \\ \text{are common} & \text{5 common} & \text{difference of} \\ & & \text{2 squares} & \text{completely} \\ & & & \text{factored}
 \end{array}$$

C. Solve the quadratic equation $(3x - 10)(5x + 70) = 0$ hopefully the quick way! The other ways will take you until Valentines Day.

Use the Zero Product Property

$$\begin{array}{l}
 3x - 10 = 0 \\
 3x = 10 \\
 x = \frac{10}{3}
 \end{array}$$

$$\begin{array}{l}
 5x + 70 = 0 \\
 5x = -70 \\
 x = -14
 \end{array}$$

$$\begin{array}{l}
 x = \frac{10}{3} \\
 x = -14
 \end{array}$$

D. Johnny Depp got a pet snake for his birthday. It was only 10 cm long. However, it grew around 2.5 cm per week. Create three representations of a function for which the inputs are the #weeks since his birthday and the outputs are the length of the snake.

An Equation

$$y = 2.5x + 10$$

A Table

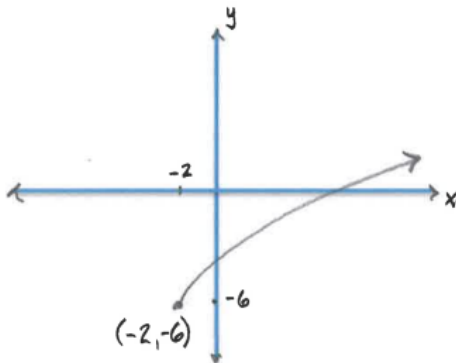
x	y
0	10
1	12.5
2	15
3	17.5
4	20
5	22.5
etc	

A labeled sketch of a the graph



E. In this chapter you were given the 9 Function Investigation Questions to use to analyze functions. You will use them now.

Use the 9 Function Investigation Questions to analyze $f(x) = 2\sqrt{x+2} - 6$
(be sure to make a sketch)



- the most important problem on this assignment.
- ① A square root function.
Curved w/
 - ② special point:
Endpoint $(-2, -6)$
 - ③ $y_{\min} = -6$

⑦ y-int $f(0) = 2\sqrt{0+2} - 6 = -4$
 $(0, -4)$ ←

x-int Set $y=0$ $2\sqrt{x+2} - 6 = 0$
 $2\sqrt{x+2} = 6$

$\sqrt{x+2} = 3$
 square
 $x+2 = 9$
 $x = 7$
 $(7, 0)$ ←

1. $\frac{12a^2}{3} = \underline{\hspace{2cm}}$

2. $\frac{a^3}{a} = \underline{\hspace{2cm}}$

3. $\frac{8a}{2a} = \underline{\hspace{2cm}}$

4. $\frac{9a^2}{3a^2} = \underline{\hspace{2cm}}$

5. $\frac{13a}{26a^2} = \underline{\hspace{2cm}}$

6. $\frac{3a^2b}{3b} = \underline{\hspace{2cm}}$

11. $\frac{30a^2}{10a^2} = \underline{\hspace{2cm}}$

12. $\frac{-10a^2}{2a^3} = \underline{\hspace{2cm}}$

13. $\frac{-15a^2}{-15a} = \underline{\hspace{2cm}}$

14. $\frac{(-2a)^2}{a} = \underline{\hspace{2cm}}$

15. $\frac{3a^3}{3a} = \underline{\hspace{2cm}}$

16. $\frac{(3b)^2}{15b} = \underline{\hspace{2cm}}$

→ G. You do NOT have to solve the equations below.

You should be able to solve all of them, however, for the upcoming Ch. 1 test. If you need practice with some or all, then do them for extra practice. Answers will be provided in class. (*you should be able to show your steps clearly as you solve them.*)

1. $4x - 5 = 15$

2. $17 = 2 - 5x$

3. $\frac{x}{3} + 1 = 4$

4. $3 - \frac{x}{5} = 1$

5. $\frac{4}{5}w - 2 = 10$

6. $4 - x = 2 - 3x$

7. $3(x - 1) + 4 = 6 - 2x$

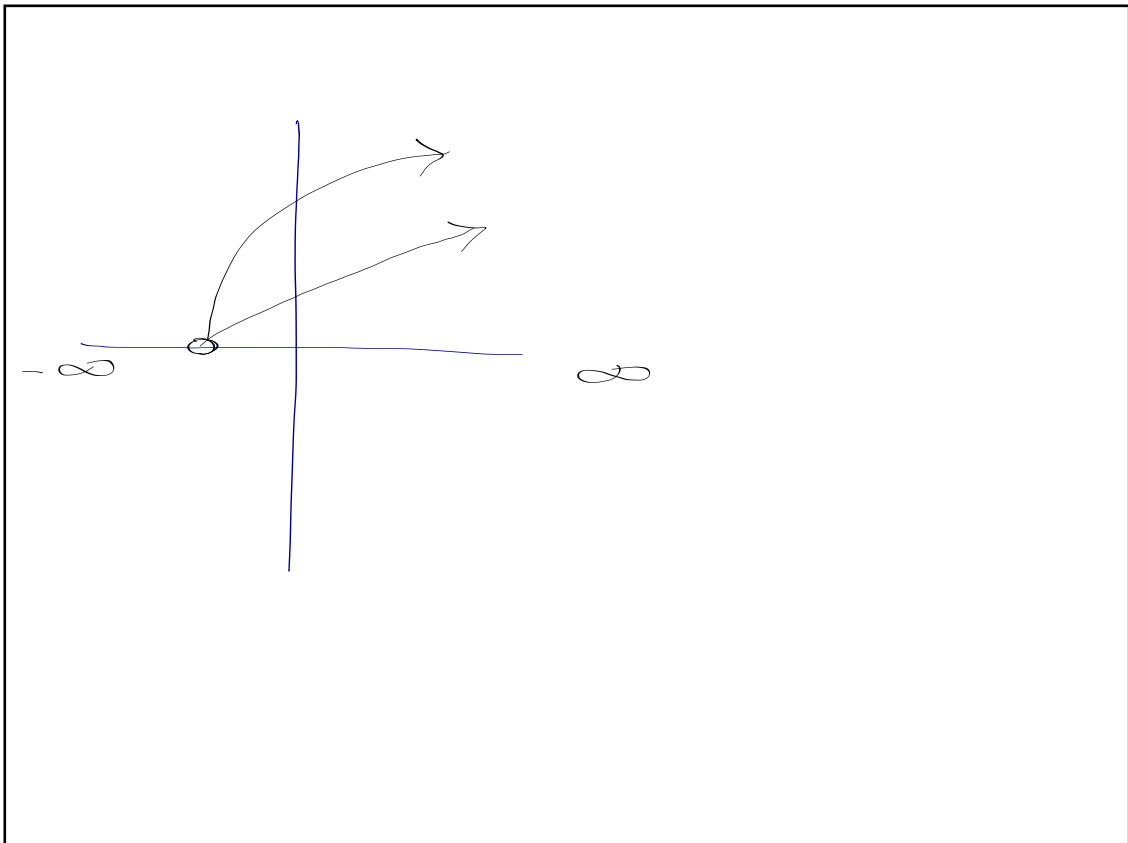
8. $\frac{3x + 1}{2} = \frac{x - 5}{3}$

On Test days you will always turn
in all of your HW along with the
HW recording sheet.

so that means tomorrow

**Your homework should be stapled to
your recording sheet today.**

later today



HOW TO FILL OUT HW Record Sheet

Day <small>(Mon, Tu, etc)</small>	Date Assigned	HW Description and include Chapter as well as problems Reminder: If you are absent, you are required to check the class website for details before you return.	HW Score from 0 to 4	Explain Special situations
	/			
	/			
	/			

W	12/18	Ch. 1 closure		
	/			
	/			

Turn in this sheet with the corresponding assignment on test day, prior to the test. (capped at 80% if turned the next 3 days.
Capped at 60% if after 3 days)

***Deductions: _____

Totals: ____ / 48

I reserve the right to
adjust all scores after looking
at your work.

LCQ 3

See yours

We'll do it together, you learn
from the experience

Aim today

Review

Practice

⇒ page 48 ... 119-128

Answers are at the end 🍀

⇒ Have your HW Recording Sheet
filled out and stapled.
before you get to class.