$y = 3(5)^x - 2$

1) Growth or Decay?

$y = 3(5)^x - 2$

$y = 3(5)^{-1})^x - 2$

$y = 3\left(\frac{1}{5}\right)^x - 2$

Decay

2) Common Ratio: "5"

3) y-Intercept ($x=0$):

$y = 3(5)^0 - 2$

$= 3 - 2$

$= 1$

4) Horizontal Asymptote:

$y = -2$

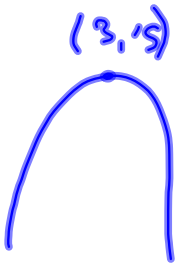
$t_n = a + (n-1)d$

Not Responsible for Midterm or Exam

$y = -2x^2 + 12x - 3$

$y = -2(x^2 - 6x + 9) - 3 + 18$

$y = -2(x-3)^2 + 15$



Vertex: $(3, 15)$

Dir. opens: Down

Axis of Sym: $x = 3$

Domain: $x \in \mathbb{R}$

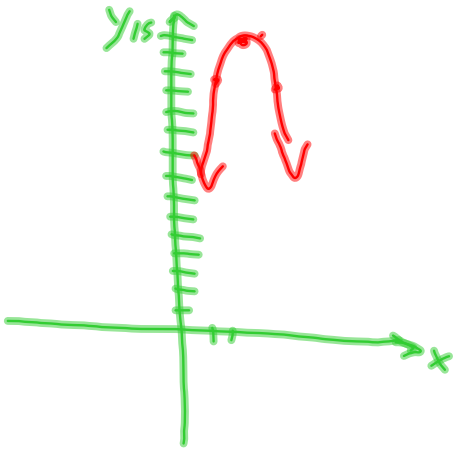
Range: $y \leq 15$

Max. or Min. $\Rightarrow$ Max. $= 15$

Mapping: $(x, y) \to (x+3, -2y+15)$

$\to (x+h, ay+k)$

Sketch:



2/ $\dfrac{2^{-5}}{2^{-2}+2^{-3}}$

$2^{-5} \div (2^{-2}+2^{-3})$

$\dfrac{\frac{1}{32}}{(\frac{1}{4}+\frac{1}{8})} = \dfrac{\frac{1}{32}}{(\frac{2}{8}+\frac{1}{8})}$

$= \dfrac{\frac{1}{32}}{\frac{3}{8}}$ cara lain $= \frac{1}{32} \div \frac{3}{8}$

$= \frac{1}{32} \cdot \frac{8}{3}$

$= \frac{1}{12}$

$6 \div \frac{1}{2}$

$6 \cdot 2$

$= 12$

ex. $2x^2 - x - 5 = 4$

$2x^2 - x - 9 = 0$

$x = \frac{1 \pm \sqrt{(-1)^2 - 4(2)(-9)}}{2(2)}$

$x = \frac{1 \pm \sqrt{73}}{4}$

#7) $x = -3$ $\quad x = \frac{2}{5}$

$x + 3 = 0$ $\quad 5x = 2$

$5x - 2 = 0$

$(x+3)(5x-2) = 0$

$5x^2 + 13x - 6 = 0$