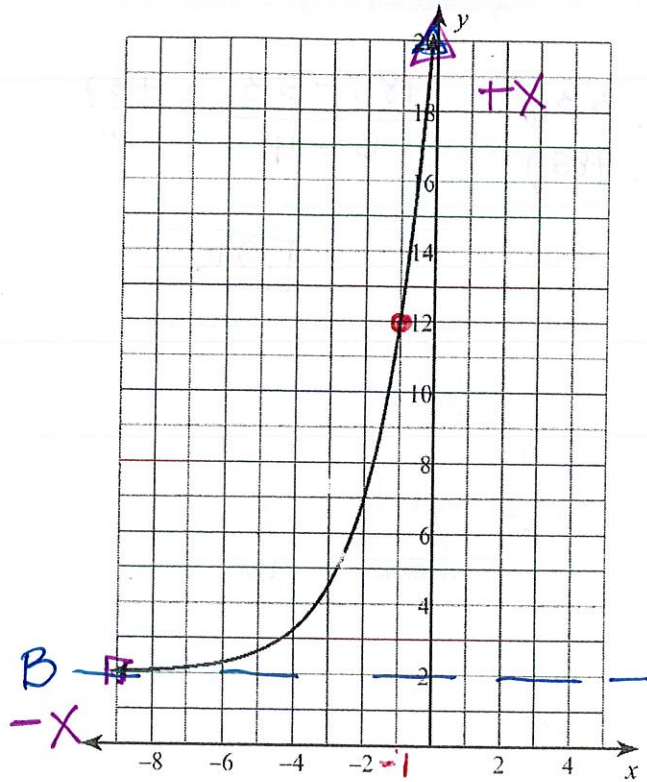


Unit 4 Exponentials
Challenge of the Day Review

1. $y = 5 \cdot 2^{x+2} + 2$



Domain: $(-\infty, \infty)$

Range: $(2, \infty)$

X intercept: none

Y intercept: $(0, 22)$
 $x = 0$

Increasing: $(-\infty, \infty)$ Decreasing: None

Asymptote: $y = 2$

End Behavior: $x \rightarrow -\infty, f(x) \rightarrow 2$
 $x \rightarrow \infty, f(x) \rightarrow \infty$

x
 \downarrow
 $f(-1) = 12$

List All Transformations:

Stretch 5

Left 2

Up 2

Domain: $(-\infty, \infty)$

Range: $(-\infty, -1)$

X intercept: None

Y intercept: $(0, -2.5)$
 $x = 0$

Increasing: None Decreasing: $(-\infty, \infty)$

Asymptote: $y = -1$

End Behavior: $x \rightarrow -\infty, f(x) \rightarrow -1$
 $x \rightarrow \infty, f(x) \rightarrow -\infty$

x
 \downarrow
 $f(1) = -4$

List All Transformations:

Reflection
Stretch
Right 1
Down 1

2. $y = -3 \cdot 2^{x-1} - 1$

