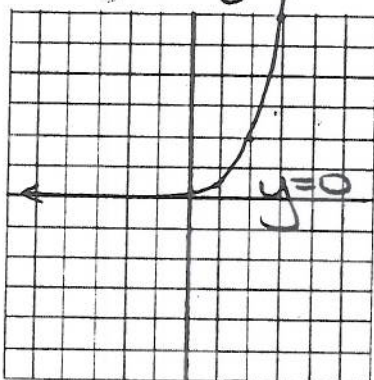


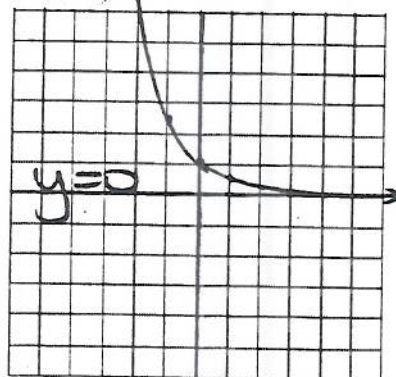
Graph the function, identify the asymptote, and state the domain and range.

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



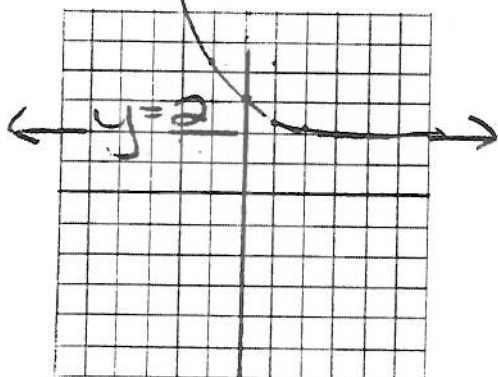
domain: \mathbb{R}
range: $y > 0$

2. $y = \left(\frac{2}{5}\right)^x$ decay



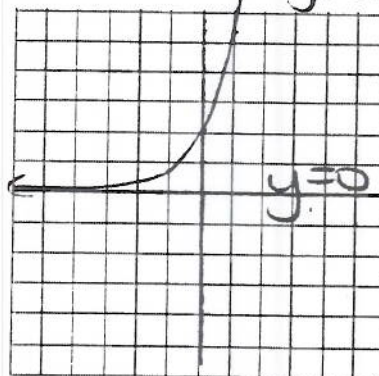
domain: \mathbb{R}
range: $y > 0$

3. $y = \left(\frac{3}{8}\right)^x + 2$ decay



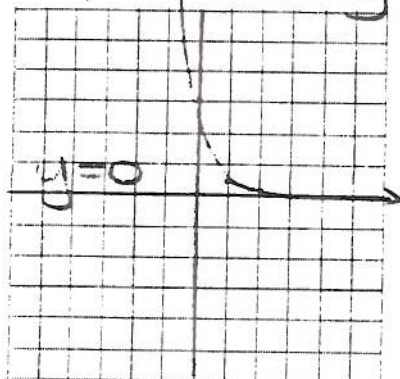
domain: \mathbb{R}
range: $y > 2$

4. $y = 2e^x$ growth



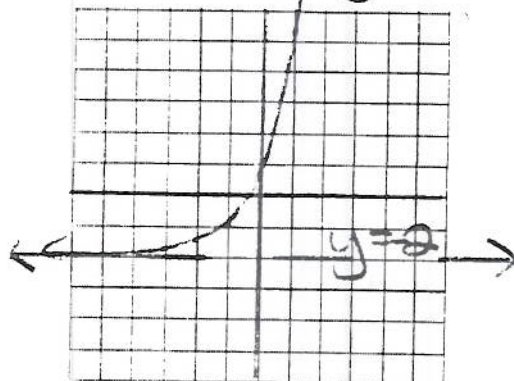
domain: \mathbb{R}
range: $y > 0$

5. $y = 3e^{-2x}$ decay



domain: \mathbb{R}
range: $y > 0$

6. $y = e^{x+1} - 2$ growth



domain: \mathbb{R}
range: $y > -2$

$\frac{3}{e^{2x}}$

Simplify the expression.

7. $3e^4 \cdot e^3$
 $= 3e^7$

8. $(-5e^{3x})^3$
 $= -125e^{9x}$

9. $\frac{e^{4x}}{5e^1} = \frac{e^{4x-1}}{5}$

10. $\frac{8e^{5x}}{6e^{2x}} = \frac{4e^{3x}}{3}$

Solve.

11. You deposit \$1200 in an account that pays 4.5% annual interest compounded continuously. What is the balance after 5 years?

$$A = 1200e^{.045(5)} = \$1502.79$$

12. A new laptop costs \$1500. The value of the computer decreases by 22% each year. Estimate the value after 2 years.

$$A = 1500(1 - .22)^2 = \$912.60$$