

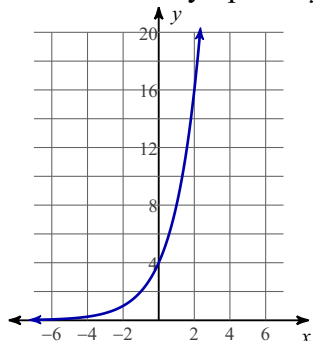
Answers to HW42: Transformations of Exponentials

1) Exponential Growth

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

Range: $(0, \infty)$

Horizontal Asymptote: $y = 0$

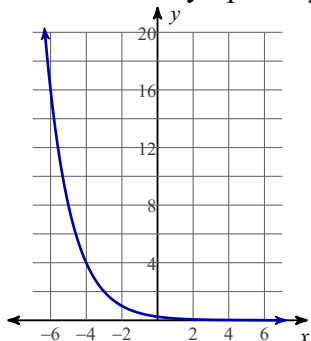


2) Exponential Decay

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

Range: $(0, \infty)$

Horizontal Asymptote: $y = 0$

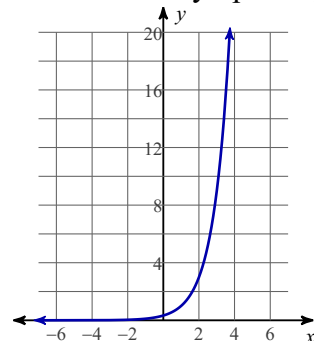


3) Exponential Growth

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

Range: $(0, \infty)$

Horizontal Asymptote: $y = 0$

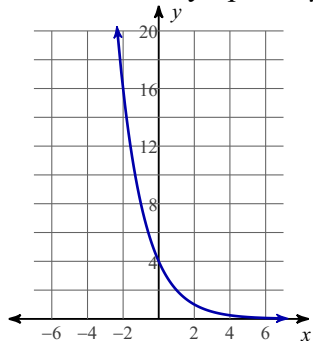


4) Exponential Decay

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

Range: $(0, \infty)$

Horizontal Asymptote: $y = 0$



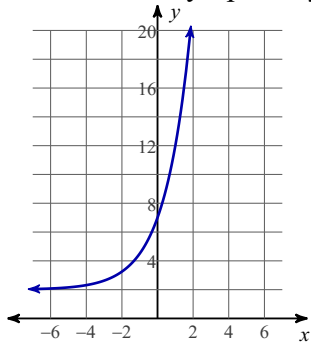
5) Exponential Growth

Transformation: shift down 2

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

Range: $(-2, \infty)$

Horizontal Asymptote: $y = -2$



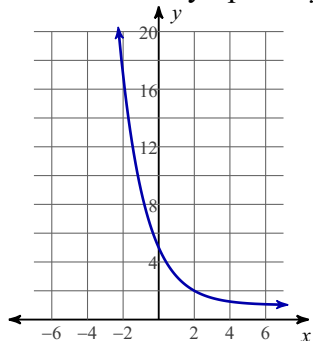
6) Exponential Decay

Transformation: shift up 1

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

Range: $(1, \infty)$

Horizontal Asymptote: $y = 1$



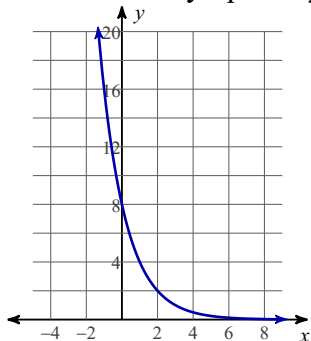
7) Exponential Decay

Transformation: shift right 2

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

Range: $(0, \infty)$

Horizontal Asymptote: $y = 0$



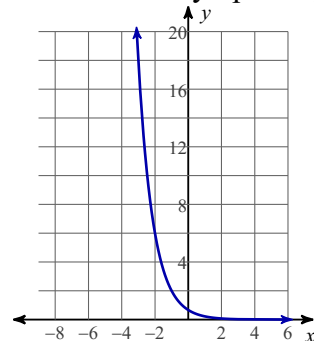
8) Exponential Decay

Transformation: shift left 1

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

Range: $(0, \infty)$

Horizontal Asymptote: $y = 0$



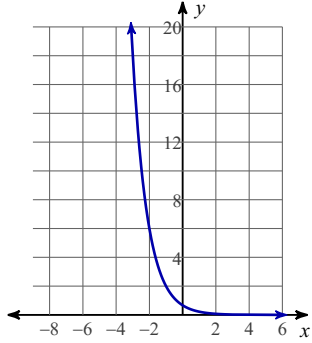
9) Exponential Growth

Transformation: reflect across x-axis & shift up 1

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

Range: $(-\infty, 1)$

Horizontal Asymptote: $y = 1$



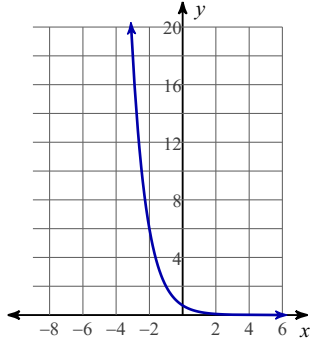
10) Exponential decay

Transformation: reflect across x-axis

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

Range: $(-\infty, 0)$

Horizontal Asymptote: $y = 0$



11) $12m^3$

12) $5x^9$

13) $729r^{12}$

14) $\frac{125}{m^3}$

15) $\frac{2}{5n^{12}}$

16) $\frac{a^3}{3}$

17) $15a\sqrt{5}$

18) $16x^2\sqrt{5}$

19) $12n^2$

20) $8n^3$

21) $\frac{2n\sqrt{3n}}{9}$

22) $\frac{\sqrt{15}}{15y}$