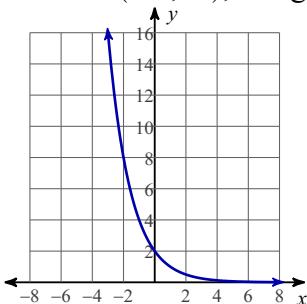
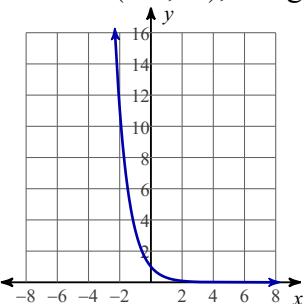
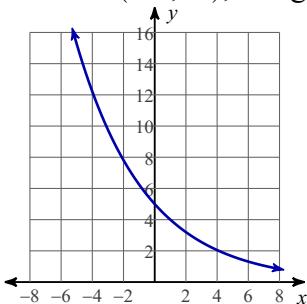


Answers to HW41: Exponential Decay

- 1) $V(t) = 35000(1 - 0.2)^t$ or $V(t) = 35000 \cdot 0.8^t$ 2) \$3758 3) 8 years
 4) After 11 years, the car is worth \$3006. 5) $C(h) = 120(1 - 0.11)^h$ or $C(h) = 120 \cdot 0.89^h$
 6) About 85mg 7) About 4 hours.
 8) After 1 hour, there is 106.8mg of caffeine in your system.
 9) $B(m) = 30000(1 - 0.08)^m$ or $B(m) = 30000 \cdot 0.92^m$
 10) 13,032 bees 11) 14 months
 12) After 8 months, there are 15397 bees in the hive.
 13) exponential decay 14) exponential growth 15) exponential growth
 16) exponential decay 17) exponential decay 18) exponential decay
 19) exponential growth 20) exponential growth 21) exponential growth
 22) exponential decay 23) exponential decay 24) exponential growth
 25) domain: $(-\infty, \infty)$; Range: $(0, \infty)$, HA: $y = 0$ 26) domain: $(-\infty, \infty)$; Range: $(0, \infty)$, HA: $y = 0$



27) domain: $(-\infty, \infty)$; Range: $(0, \infty)$, HA: $y = 0$



28) domain: $(-\infty, \infty)$; Range: $(3, \infty)$, HA: $y = 3$

