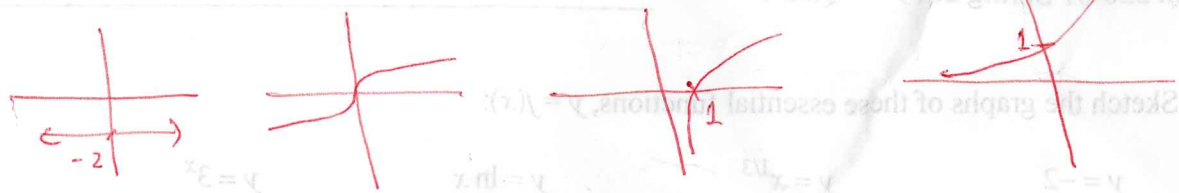
Quiz 1 — Sec 01 Key

1. 

+2

2. $(f \circ g)(x) = \dfrac{4}{\sqrt{x}-1}$ +1

D: $x \neq 1 \cap x \geq 0$

$[0,1) \cup (1,\infty)$ +1

+2

3. $C(x) = R(x)$ or $R(x) - C(x) = 0$ +1

$3x + 140 = 8x$

$5x = 140$

$x = 28$ +1

+2

4. It costs \$19 (more) to make the 101st unit.

The 101st unit costs an additional \$19 to produce.

+2

5. $4^x = 32^{x-3}$

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

$2x = 5x - 15$

$3x = 15$

$x = 5$ +1

$7^x = e^{x+1}$

$x \ln 7 = (x+1)\ln e$

$x \ln 7 - x = +1$

$x(\ln 7 - 1) = +1$

$x = \dfrac{+1}{\ln 7 - 1}$ or $x = \dfrac{-1}{1 - \ln 7}$ +1

or $\log_7 7^x = \log_7 e^{x-1}$

$x = x \log_7 e^{\#} - \log_7 e$

$x - x \log_7 e = -\log_7 e$

$x(1 - \log_7 e) = -\log_7 e$

$x = \dfrac{-\log_7 e}{1 - \log_7 e}$ or $x = \dfrac{\log_7 e}{\log_7 e - 1}$