

Solutions to review for exam 2.

(1)

(A) It means that the temperature of the coffee is 90 degrees Celsius after 20 minutes.

(B) It means that after 20 minutes, if the time is increased by 1 minutes, the temperature of the coffee decreases by 10 degrees Celsius.

(2)

(A) Yes

(3)

(A) Yes

(B) No

(4)

(A) Yes

(B) No

(5)

(A)  $f(140) = 15000$  means that 15000 skateboards are sold when the cost is \$140 per board.  $f'(140) = -100$  means that if the price is increased from \$140, every dollar of increase will decrease the total sales by 100 boards.

(B) 1000

(C) positive

This means that the revenue will increase by about \$1000 if the price is raised by \$1.

(6)

$(-\infty, -\frac{2}{(b \ln 2)}]$

(7)

$y = 4x - 11$

(8)

$$f(x) = \exp(-x), f''(x) > 0$$

(9)

$$f'(t) = \frac{2}{t}$$

(10)

$$f(A + H) \approx 4.1$$

$$f(A - H) \approx 3.9$$

(11)

(A)  $-1$

(B)  $h'(2) = \frac{5 \cdot 3^{-\frac{1}{2}} - \sqrt{3}}{4}$

(C)  $k'(1) = 5$

(D) Increasing