

Hw Qz 2.7

Find the solution set $\frac{x^2 - x - 2}{x^2 - 4x + 3} > 0$

A ball is thrown vertically upward with a velocity of 64fps from the top edge of a building 80ft high. For how long is the ball higher than 96ft?

$$h(x) = -16x^2 + v_0x + s_0$$

Chapter 2.8: Variation

Direct:

$$y = kx \quad \text{some constant}$$

$$k = \frac{y}{x}$$

Inverse:

$$y = \frac{k}{x} \quad k = yx$$

Joint:

$$y = kxz \quad y = \frac{kx}{z}$$

Distance, d , a body falls varies directly as the square of the time, t . If skydivers fall 64ft in 2 seconds how far will they fall in 4.5 seconds?

$$\begin{aligned}x &= ky \\ d &= kt^2 \\ 64 &= k(2)^2 \\ 16 &= k\end{aligned}$$

$$\begin{aligned}d &= 16t^2 \\ d &= 16(4.5)^2 \\ d &= \boxed{324 \text{ ft}}\end{aligned}$$

C varies jointly as A and T . $C=175$ when $A=2100$ and $T=4$. Find C when $A=2400$ and $T=6$

$$\begin{aligned}C &= kAT \\ \frac{175}{8400} &= \frac{k(2100)(4)}{8400} \\ \frac{1}{48} &= k\end{aligned}$$

$$C = \frac{1}{48}(2400)(6)$$

$$C = \boxed{300}$$

a is directly prop. to b and
inversely prop. to the square
of c .

$$\begin{aligned} a &= 7 \\ b &= 9 \\ c &= 6 \end{aligned}$$

$$\begin{aligned} a &= 7 \\ b &= 4 \\ c &= 8 \end{aligned}$$

$$\begin{aligned} A &= \frac{k \cdot b}{c^2} \\ 7 &= \frac{k(9)}{6^2} \\ 7 &= \frac{9k}{36} \end{aligned}$$

$k = 28$

$$A = \frac{28(4)}{8^2}$$

$A = 1.75$

Suggested Work: Ch 2.8
pg.344 #'s 1,5,7,9,13,17,25