

Answers Practice C₁

$$h = 20 \frac{(y-4)(7x+5)}{(5x-1)}$$

$$x = 5$$

$$y = 6$$

Gym's Height: 66.6 dm

Tower's Height: 21 dm

3 towers max can
fit in the gym

Stacking Towers

$$\begin{array}{r} 25 \\ \wedge \\ -5 \end{array} \frac{25x^2 - 5x - 5x + 1}{5x(5x-1) - 1(5x-1)} \\ \frac{}{(5x-1)(5x-1)}$$

Gym's Height:

$$\frac{xy - 2y + 4x - 8}{y(x-2) + 4(x-2)} \\ \frac{}{(x-2)(y+4)}$$

$$h = \left(\frac{20y^2 - 320}{25x^2 - 10x + 1} \right) \left(\frac{35x^2 + 20x - 2}{y+4} - \frac{2x^2 - x - 6}{xy - 2y + 4x - 8} \right)$$

$$h = \frac{20(y^2 - 16)}{(5x-1)(5x-1)} \left(\frac{35x^2 + 20x - 2}{y+4} - \frac{(2x+3)(x-2)}{(x-2)(y+4)} \right)$$

$$h = \left(\frac{2(y+4)(y-4)}{(5x-1)(5x-1)} \right) \left(\frac{35x^2 + 20x - 2}{y+4} - \frac{(2x+3)}{y+4} \right)$$

$$\left(\frac{35x^2 + 20x - 2 - 2x - 3}{y+4} \right)$$

$$\frac{20(y-4)(y-4)}{(5x-1)(5x-1)} \left(\frac{35x^2 + 18x - 5}{y+4} \right)$$

$$\frac{20(y-4)(y-4)(7x+5)}{(5x-1)(5x-1)(y+4)}$$

$$h = \frac{20(y-4)(7x+5)}{(5x-1)}$$

$$\frac{2x^2 - x - 6}{2x^2 + 4x + 3x - 6} \quad \begin{array}{r} -12 \\ \wedge \\ -4 \end{array} \\ \frac{2x(x-2) + 3(x-2)}{(2x+3)(x-2)}$$

$$\frac{35x^2 + 18x - 5}{35x^2 + 25x - 7x - 5} \quad \begin{array}{r} -175 \\ \wedge \\ -25 \end{array} \\ \frac{5(7x+5) + 1(7x+5)}{(7x-5)(5x+1)}$$

$$A_b^1 = A_b^2$$

$$(x+1)(x-3) = (2x-7)(x-1)$$

$$\begin{array}{r} x^2 - 2x - 3 \\ 0 = \end{array} = \begin{array}{r} 2x^2 - 9x + 7 \\ -x^2 + 2x + 3 \end{array}$$

$$0 = x^2 - 7x + 10$$

$$0 = (x-2)(x-5)$$

~~$x \neq 2$~~

$$\boxed{x=5}$$

Can't have neg. dimension

$$V_0 = V_3$$

$$(2x-7)(x-1)(y^2-4y-2) = y(y-1)(x-1)$$

$$(2x-7)(y^2-4y-2) = y(y-1)$$

$$(2(5)-7)(y^2-4y-2) = y(y-1)$$

$$3(y^2-4y-2) = y(y-1)$$

$$3y^2 - 12y - 6 = y^2 - y$$

$$-y^2 + y$$

$$2y^2 - 11y - 6 = 0$$

$$-12 \quad \frac{2y^2 - 12y + 1y - 6}{-12} = 0$$

$$2y(y-6) + 1(y-6) = 0$$

$$(y-6)(2y+1) = 0$$

$$y=6 \quad y = -\frac{1}{2}$$

$$\text{Height} = \frac{20(6-4)(7(5)+5)}{5(5)-1}$$

$$= \frac{20(2)(40)}{24}$$

$$= 66.6 \text{ dm}$$

$$66.6 \div 21 \approx 3.17$$

Towers max

$$\frac{6+1}{6^2-4(6)-2} = \frac{7}{10}$$

$$\frac{5-1}{5-1} = 4$$

