

# Review Day

## Make Good Choices

① Don't use the Product Rule!! why?

$$y = 5x^3, \quad y = \frac{1}{5}(x^2 - 3x + 1)$$

$$y = 5x^3(x-3) \quad y = \frac{2\pi x}{\sqrt{3}} \left( \frac{5}{2} - \frac{\pi}{x} \right)$$

② Don't use the Quotient Rule!! why?

$$y = \frac{5}{x}$$

$$y = \frac{5}{(x-2)^2}$$

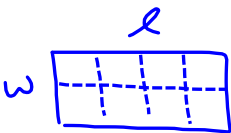
$$y = \frac{5x^3 + 6x^2 - 7x}{3\sqrt{x}}$$

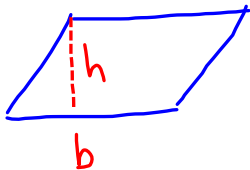
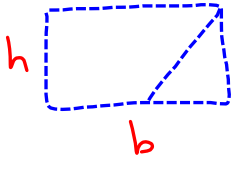
If you want a nice factored derivative function, then using the Product Rule is probably a good idea especially when the denominator is a radical.

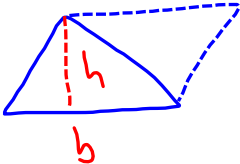
$$\text{Ex: } y = \frac{5x^3 + 6x^2}{(x-3)^{\frac{1}{3}}} = (5x^3 + 6x^2)(x-3)^{-\frac{1}{3}}$$

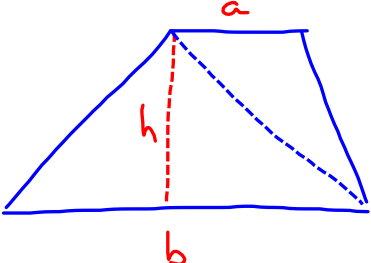
## Gr. 9 Measurement Formula UNDERSTOOD

2-D: Everything is a Rectangle

①   $A = lw$

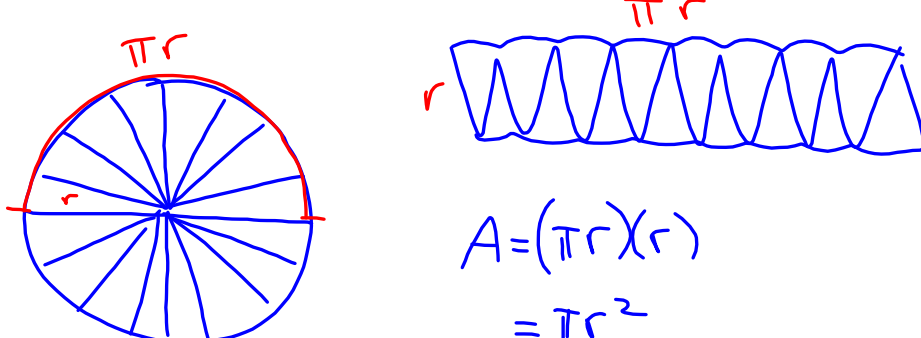
②    $A = bh$

③   $A = \frac{bh}{2}$

④   $A = \frac{ah}{2} + \frac{bh}{2}$   
 $= \frac{h(a+b)}{2}$

$$\textcircled{5} \quad \frac{C}{d} = \pi \quad \therefore C = \pi d \\ = 2\pi r$$

$\textcircled{6}$



The diagram shows a circle on the left divided into 12 equal sectors by blue lines. The radius is labeled  $r$  and the circumference is labeled  $\pi r$  in red. To the right is a rectangle with a height labeled  $r$  and a width labeled  $\pi r$  in red. The rectangle is divided into 12 vertical sections, each containing a triangle pointing to the right, representing the sectors of the circle.

$$A = (\pi r)(r) \\ = \pi r^2$$

$\textcircled{7}$  Prisms + Pyramids (Including cylinders + cones)

$$V = BA \cdot h$$

$$V = \frac{1}{3} BA \cdot h$$

$\textcircled{8}$  Spheres

$$SA = 4\pi r^2$$

$$V = \frac{4}{3} \pi r^3$$