

(0b)

$$\lim_{x \rightarrow \frac{5}{2}} \frac{|2x - 5|(x+1)}{2x - 5}$$

$$\lim_{x \rightarrow \frac{5}{2}^-} \frac{-(2x-5)(x+1)}{2x-5}$$

$$\begin{aligned} \lim_{x \rightarrow \frac{5}{2}^-} & -(x+1) \\ = & -(2.5 + 1) \\ = & -3.5 \end{aligned}$$

$$\begin{aligned} \lim_{x \rightarrow \frac{5}{2}^+} & \frac{+(2x-5)(x+1)}{(2x-5)} \\ = & 3.5 \end{aligned}$$

$$\begin{aligned} & \rightarrow \begin{cases} x > 5/2 & y = (2x-5) \\ x < 5/2 & y = -(2x-5) \end{cases} \\ & y = \textcircled{-2x+5} \end{aligned}$$

$$4b \quad \frac{(3+h)^4 - 81}{h}$$

$$\begin{matrix} (3+h)^0 \\ (3+h)^1 \\ \vdots \end{matrix}$$

$$= 1(3)^4 + 4(3)^3(h)^1 + 6(3)^2(h)^2 + 4(3)(h)^3 + 1(h)^4$$

$$= 81 + 108h + 54h^2 + 12h^3 + h^4$$

$$= \frac{(81 + 108h + 54h^2 + 12h^3 + h^4) - 81}{h}$$

$$= \frac{108 + 54h + 12h^2 + h^3}{h}$$

$$= 108 + 54h + 12h^2 + h^3$$

∴ ∴

$$y = mx + b$$
$$V(t) = 0.08213t + 22.4334$$

$$\frac{V - 22.4334}{0.08213} = t$$

$$\frac{24.0760 - 22.4334}{20 - 0}$$
$$= 0.08213$$

P 21
#19

$$\frac{20}{\sqrt{5}-1} \cdot \frac{1}{x^2} = x^{-2}$$

3x (4)
= 4.3x (4)
= 12x³

$$\frac{1}{\frac{3}{8}} = \frac{1}{\frac{3}{24}}$$

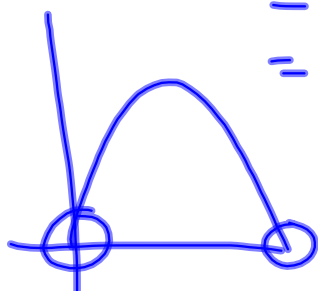
$$\begin{aligned} \lim_{\Delta P \rightarrow 0} \frac{\Delta D}{\Delta P} &= \lim_{h \rightarrow 0} \frac{D(5+h) - D(5)}{h} \\ &= \lim_{h \rightarrow 0} \frac{\frac{20}{\sqrt{5+h-1}} - \frac{20}{\sqrt{5-1}}}{h} \\ &= \lim_{h \rightarrow 0} \frac{\frac{20}{\sqrt{4+h}} - 10}{h} \\ &= \lim_{h \rightarrow 0} \frac{\frac{20}{\sqrt{4+h}} - 10}{h} \cdot \left(\frac{\frac{20}{\sqrt{4+h}} + 10}{\frac{20}{\sqrt{4+h}} + 10} \right) \\ &= \lim_{h \rightarrow 0} \frac{\frac{400}{4+h} - \frac{160}{4+h} - \frac{100h}{4+h}}{h \left(\frac{20}{\sqrt{4+h}} + 10 \right)} \\ &= \lim_{h \rightarrow 0} \frac{\cancel{400} - \cancel{400} - 100h}{4+h} \cdot \frac{1}{h \left(\frac{20}{\sqrt{4+h}} + 10 \right)} \\ &= \lim_{h \rightarrow 0} \frac{-100}{(4+h) \left(\frac{20}{\sqrt{4+h}} + 10 \right)} \\ &= \frac{-100}{4(10+10)} \\ &= \frac{-100}{80} = -\frac{1.25}{\sqrt{11}} \end{aligned}$$

py 30
#13

$$h = 25t^2 - 100t + 100$$

$$= 25(t^2 - 4t + 4)$$

$$= 25(t-2)(t-2)$$



it lands at time 2

$$h'(t) = 50t - 100$$

$$h'(t) = 50t - 100$$

$$h'(2) = 50(2) - 100$$

$$= 0$$



$$\lim_{h \rightarrow 0} \frac{h(2+h) - h(2)}{h}$$

