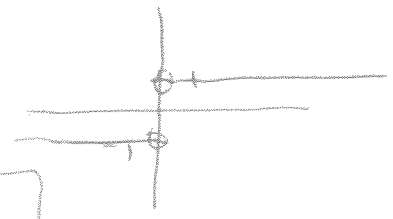
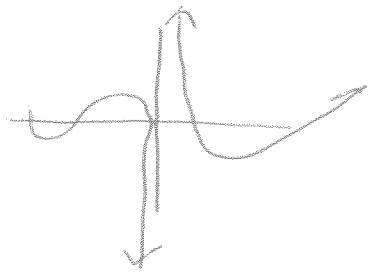
(2) $\lim_{x\to 0} \frac{|x|}{x} =$



Doesn't Exist

(4) $\lim_{x\to 0^-} \frac{\cos x - 1}{x}$



$-\infty$

(6) $\lim_{x\to 1} \sqrt[3]{x^3+3} = \sqrt{1^3+3} = 2$

(8) $\lim_{x\to -4} \frac{\sqrt{x+20}}{x} = \frac{\sqrt{16}}{-4} = -1$

(10) $\lim_{x\to 9} \frac{x^2+1}{\sqrt{x}-3} \frac{(\sqrt{x}+3)}{(\sqrt{x}+3)} = \frac{(x^2+1)(\sqrt{x}+3)}{x-9} \quad \frac{\quad}{0} =$

Doesn't Exist

(12) $\lim_{t\to\infty} \frac{10t^3-40t+2}{2t^3+14t+12} = \frac{10}{2} = 5$ 500

(14) $\lim_{x\to\infty} \frac{2x^3-x-2}{4x^3+5x^2} = \frac{1}{2}$

(22) $m = 14x$

(H.)

(24) $\frac{s(7) - s(1)}{7-1} = \frac{3.55 - -8.95}{6} = 2.05$ miles/hr

(26) $\frac{s(8) - s(4)}{8-4} = \frac{0 - -8}{4} = 2$ miles/hr

(28) $v(t) = 2 - 2bt$

(30) $12t - 3t^2 = v(t)$

(16) ∞

(18) $\lim_{h\to 0} \frac{f(x+h)-f(x)}{h} = \frac{x^2+2xh+h^2-3x-3h-x^2+3x}{h}$

$f(x+h) = (x+h)^2 - 3(x+h) = x^2+2xh+h^2-3x-3h$

$f(x) = x^2 - 3x$

$\lim_{h\to 0} \frac{2xh+h^2-3h}{h} = 2x+h-3 = \boxed{2x-3}$

at $(2,-2) = 2(2)-3 = \boxed{1}$

at $(-1,4) = 2(-1)-3 = \boxed{-5}$

(20) $\lim_{h\to 0} \frac{f(x+h)-f(x)}{h} = \frac{x^3+3x^2h+3xh^2+h^3-4x^2-8xh-8h^2-(x^3-4x^2}{h}$

$f(x+h) = (x+h)^3 - 4(x+h)^2 = x^3+3x^2h+3xh^2+h^3 - 4(x^2+2xh+h^2)$

$f(x) = x^3 - 4x^2$

$= x^3+3x^2h+3xh^2+h^3-4x^2-8xh-8h^2$

$\frac{3x^2h+3xh^2+h^3-8xh-8h^2}{h} = 3x^2+3xh+h^2-8x-8$

$= \boxed{3x^2-8x}$

at $(1,-3) = \boxed{-5}$ at $(3,-9) = \boxed{3}$