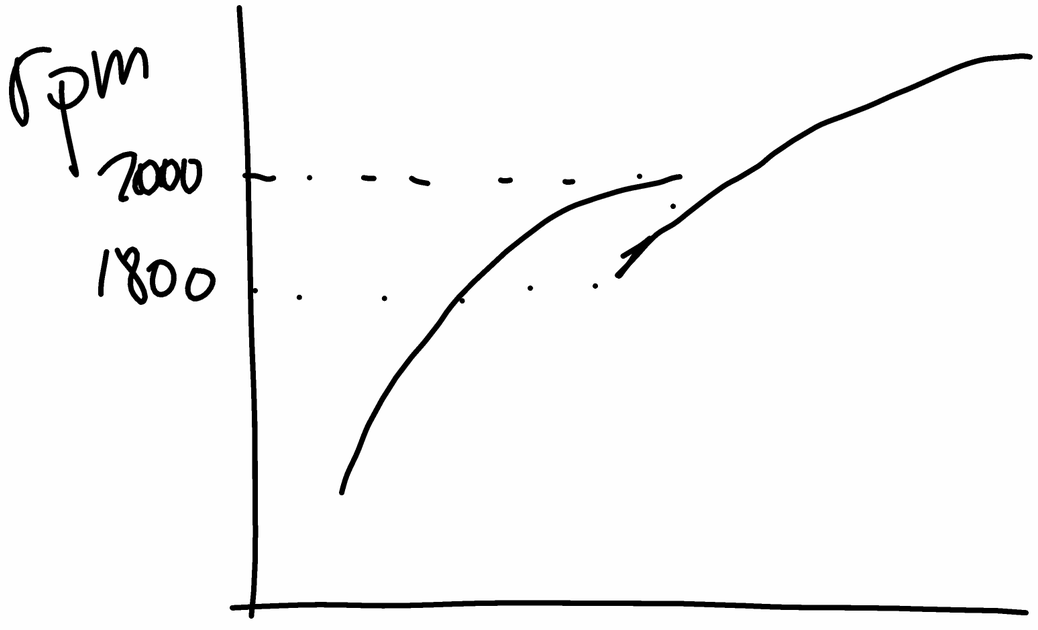
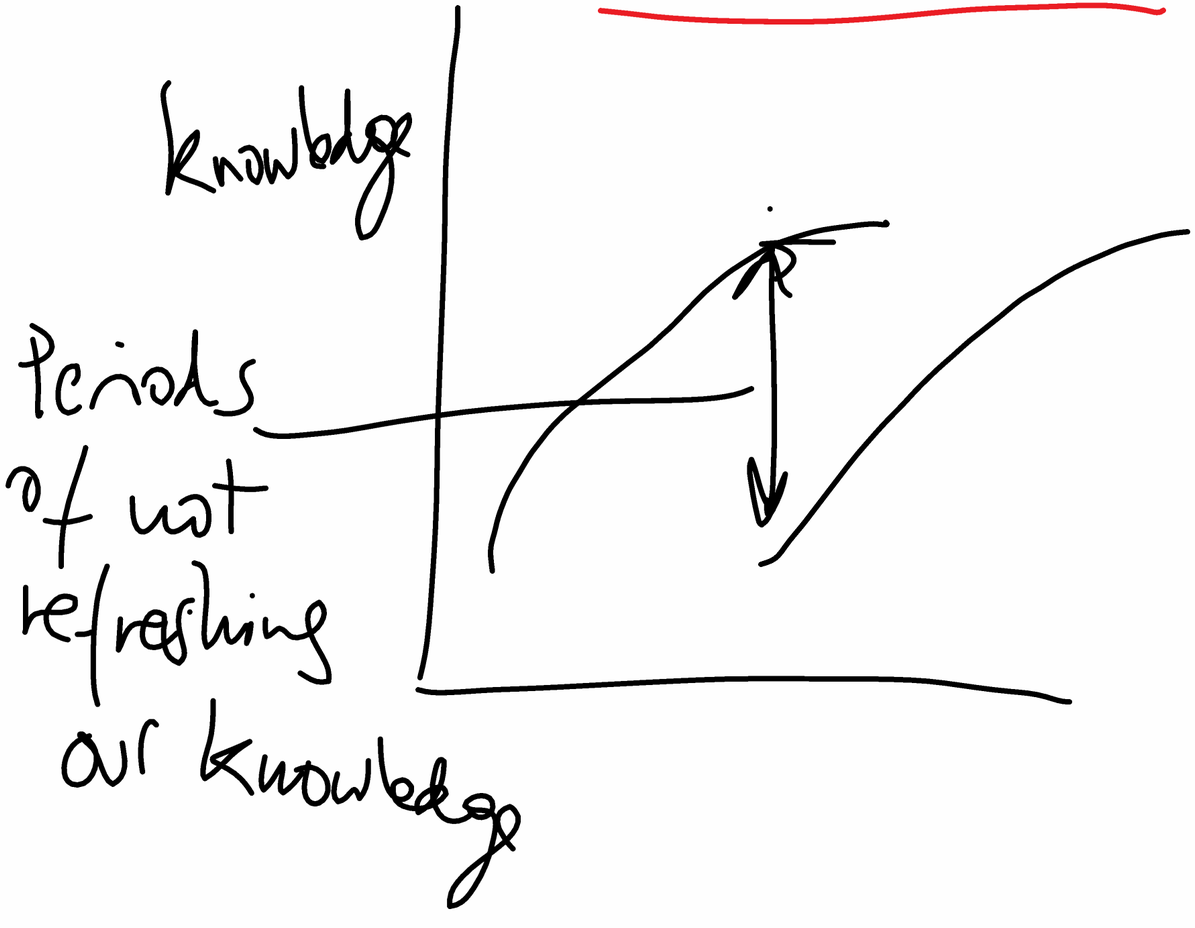
Fri 30 Nov 2018





ANSWERS TO TEST TERM 1

1.1) C 1.2) D 1.3) B 1.4) E

2.1) C 2.2) B 2.3) E 2.4) A

3.1) D 3.2) C 3.3) A 3.4) A 3.5) C 3.6) C

3.7)

X	Y
-20	18
-5	-7
-5	-2
7	3

PROBLEMS (only #1 & #2)

2.1) $f(x) = 2x^2 + 3x - 1$

a) $f(3) = 2(3)^2 + 3\cdot(3) - 1 = 2\cdot 9 + 9 - 1 = 26$

b) $f\left(\frac{1}{2}\right) = 2\left(\frac{1}{2}\right)^2 + 3\cdot\left(\frac{1}{2}\right) - 1 = 2\cdot\frac{1}{2^2} + \frac{3}{2} - 1 =$

$= \frac{1}{2} + \frac{3}{2} - 1 = \frac{4}{2} - 1 =$

$= 2 - 1 = 1$

c) $f(5) - f(4) =$

$= [2(5)^2 + 3\cdot(5) - 1] - [2(4)^2 + 3\cdot(4) - 1] =$

$= [2\cdot 25 + 15 - 1] - [2\cdot 16 + 12 - 1] = [50 + 14] - [32 + 11] = 64 - 43 = 21$

Problem 2: Height of stone over river with time: $h(t) = 19.6 - 4.9t^2$ (meters)

2a) $h(0)$? $h(0) = 19.6$ m It represents the initial height of the stone over the river (right before throwing it)

2b) Time when hits the water?

Let's call that time T. At this time the height over the water is zero! In other words $h(T) = 0$. Hence, we need to find the value(s) of t for which h is $= 0$

$$0 = 19.6 - 4.9T^2 \Rightarrow 19.6 = 4.9T^2 \Rightarrow T^2 = \frac{19.6}{4.9} = 4 \Rightarrow$$

$$\Rightarrow T = \sqrt{4} = \boxed{2}$$