Photo should only be of ONE assignment page!

1. Determine the equation for each sinusoidal ... sine and the cosine functions.

Marking Scheme (out of 15)

- 1 mark for each correct amplitude (out of 3)
- 1 mark for each correct "k" value (out of 3)
- 1 mark for each horizontal shift (use the first applicable shift to the RIGHT) (out of 3)
- 1 mark for each vertical shift (out of 3)
- 1 mark for rewriting the cosine function as a sine function (out of 3)

10

Due 11:59 PM Wednesday 6 March

4-6I Evaluation- Transformations of Sinusoidal Functions

KNOWELDGE	10 /24

KNOWELDGE 10 **24 MARKS**

For the following functions, determine the amplitude, period, complete transformations, domain and range, and then sketch one cycle of the graph.

5

Marking Scheme (out of 12 marks each)

- 1 mark for the amplitude
- 1 mark for the period
- 4 marks for the complete transformations
- 1 mark for the domain
- 1 mark for the range
- 2 marks to transform the 5 key points listed below
- 2 marks to sketch the graph of the function

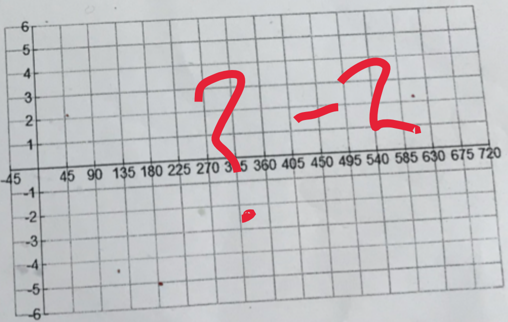
$y = 3\sin\left[\frac{1}{2}(x + 45^{\circ})\right] + 1$

Amplitude	Period	Domain	Range
3 ✓	720 ✓	{x∈R} ~~x ≤ 675°~~ −1	(y∈R) −2≤y≤4 ✓

List (in words) the complete transformations	a: Compress the vertical stretch k: stretch horizontal d: positive right c: postive up } by what amounts? −4

x	y	→	2x+45°	3y+1
0	0	→	−45	1
90	1	→	135	4
180	0	→	315	1
270	−1	→	495	−2
360	0	→	675	1

✓✓



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$y = 2\cos[3(x - 30°)] + 2$ (annotated: a, k, d, c)

Amplitude	Period	Domain	Range
2 ✓	120 ✓	30° ≤ x ≤ 1[illegible] ✗ $x \in R$	$y \in R$, $0 \le y \le 4$ ✓

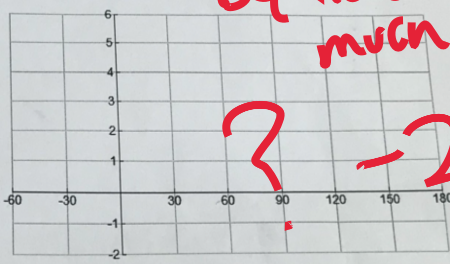
List (in words) the complete transformations	
	a: Vertical stretch k: horizontal compress d: left negatie c: up positie

You need to say by how much

-1   5   -4

x	y	→		
0	1	→	30°	4
90	0	→	60°	2
180	-1	→	90°	0
270	0	→	120°	2
360	1	→	150°	4

✓ ✓



? -2

Why haven't you completed the graphs?