

2022 Add Math Preliminary Exam P1 Answer Key

1) $h = 6 + 4\sqrt{3}$

2a) $p < -\frac{1}{2}$ (NA) , $p > \frac{1}{2}$

2b) $h = -3$

3a) $\frac{13}{5}$

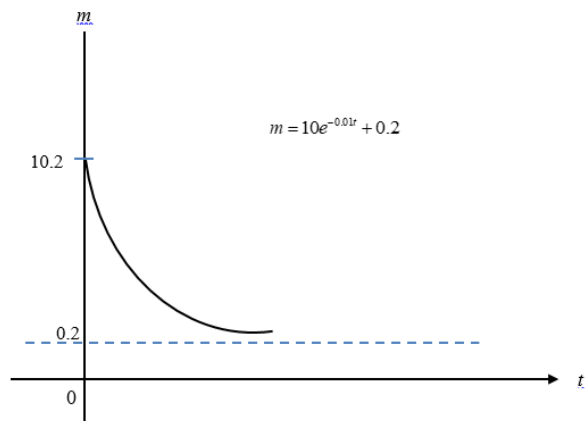
3b) $\frac{24}{25}$

3c) $\frac{56}{33}$

4a) $x = 0.585$, $x = 2.81$

5a) 10.2 g

5b)



5c) 348

6a) $a = 3$, $b = 5$

6b) $(2x-1)(x-5)(x+1)$

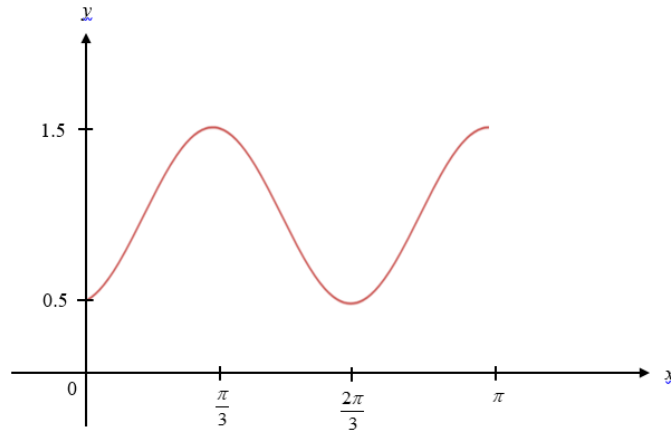
7a) $(x-9)^2 + (y-2)^2 = 25$ or $x^2 + y^2 - 18x - 4y + 60 = 0$

7c) $(x-6)^2 + (y+2)^2 = \frac{25}{9}$

8a) 0.5

8b) $b = 3$

8c)



8d) The solutions to $\pi \cos(3x) + 3x = 0$ are the x-coordinates of the points of intersections between the line and the curve.

9) $x = 30^\circ, 150^\circ, 210^\circ, 330^\circ$

10a)
$$-\frac{4}{(3x-4)^2}$$

11b) $\therefore t = 0.575 \text{ sec}$

12a) 4.8 cm

12c)
$$x = \frac{12}{5}$$

13a) $f(x) = e^{-2x} + 5x - 10$

13b) $(-0.458, -9.79)$ is a minimum point.

14a)
$$s = \frac{t^3}{3} - 3t^2 + 5t$$

14b) 13 m

14c) C is nearer O.