Higher Prelim Revision 2018 Answers

Question	Answer
1	**3y = 5x - 7**
2	**a) ½ b) 1**
3	(x+3)(2x+1)(x-1)
4	**10° , 50° , 130°**
5	**$(x+3)^2+2$; min(-3,2) ; max =** $\frac{1}{2}$
6	**In the range [0,2π] we have the maximum at** $\frac{\pi}{8}, \frac{9\pi}{8}$
7	**a) reflected in x axis b) moved 2 to the left c) moved 3 up d) reflected in x axis then moved up 2**
8	**$\sqrt{41}\cos(x-39)^o$, (i) max $\sqrt{41}$, x=39º, min $-\sqrt{41}$ x= 219º. (ii) 101º, 337º**
9	0
10	p = -7
11	**f(g(x))=3 – 10x , g(f(x)) = -4-10x ; x = 0**
12	**Ans. included in the question**
13	$a)\frac{240}{289}$; $b)\frac{161}{289}$
14	**Altitude:- y =3x – 4 ; Median:- y = -2x + 1**

15. (a) 30 (b) 15540 (c) 5.9 hours

16 (a) 6 (b) 3 (c) 2 (d) 3

17 (a) (16, 0) (b) (6, 0)

18. (a) (0, 3) (b) (0, 8)

19. (a) 0.505 (b) 1.37 years

20. (a) $f^{-1}(x) = 2(x - 8)$ 21. $f^{-1}(x) = \sqrt[3]{(x + 6)}$

22. $x \in R$, $x \geq 0$ $f^{-1}(x) = (y-5 / 2)^2$

23. (a) max = 3 at $x = 7\pi/4$, min = -1 at $x = 3\pi/4$
(b) max = 4 at $x = 2\pi/3$, min = 0 at $x = 5\pi/3$

24. $x = \pi/6, \pi 3/2$ 25. Show teacher. 26. k = -1

27. 0 28. PQ = 3QR and $\theta = 65.3^{o}$.

29. a = -2/3, b = 1/3. 30. (5, 0, -5)