Holiday Revision Answers

Question	Answer
1	$3y = 5x - 7$
2	a) ½ b) 1
3	a) $y' = 6x^2 + 2x - 4$ b) $y' = \frac{1}{x^{\frac{1}{2}}} - \frac{1}{2x^{\frac{3}{2}}}$
4	$3\frac{2}{3}$
5	10° , 50° , 130°
6	{ 56° , 90° , 124° , 270° }
7	$(x+3)^2+2$; min(-3,2) ; max = $\frac{1}{2}$
8	$y = 2.5x + 14.5$
9	$y = -x - 7$; $\tan\theta = -1$ so $\theta = 135°$
10	In the range $[0,2\pi]$ we have the maximum at $\frac{\pi}{8}, \frac{9\pi}{8}$
11	$k = \pm 6$
12	a) (0,00 and (3,0) b) max at (0,0) and min at (2,-16) c) see teacher d) area = $27cm^2$
13	a) reflected in x axis b) moved 2 to the left c) moved 3 up d) reflected in x axis then moved up 2
14	$\sqrt{41}\cos(x-39)^o$, (i) max $\sqrt{41}$, $x=39^o$, min $-\sqrt{41}$ $x= 219^o$. (ii) 101°, 337°
15	$y = 12x - 6$
16	$y = x - 2$
17	$u_{n+1} = 0.65u_n + 8$ with $u_0 = 25$; L = 22.86 tons
18	$f(g(x))=3 - 10x$, $g(f(x)) = -4-10x$; $x = 0$
19	See teacher : $17\frac{1}{3}cm^2$
20	$y = x - 2x^2$
21	See teacher
22	Ans. included in the question
23	$\frac{29}{8}$
24	Increasing for $x > 5$ and $x<-1$
25	$a)\frac{240}{289}$; $b)\frac{161}{289}$
26	$2y + x = 1$

27	**Altitude:- $y = 3x - 4$; Median:- $y = -2x + 1$**

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

29. (a) 6 (b) 3 (c) 2 (d) 3

30. (a) (16, 0) (b) (6, 0)

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

32. (a) 0.505 (b) 1.37 years

33. (a) $f^{-1}(x) = 2(x - 8)$ 34. $f^{-1}(x) = \sqrt[3]{(x + 6)}$

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