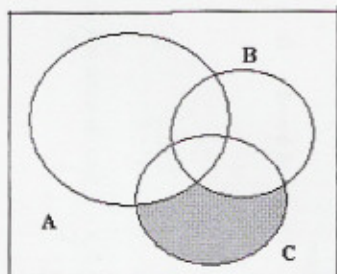


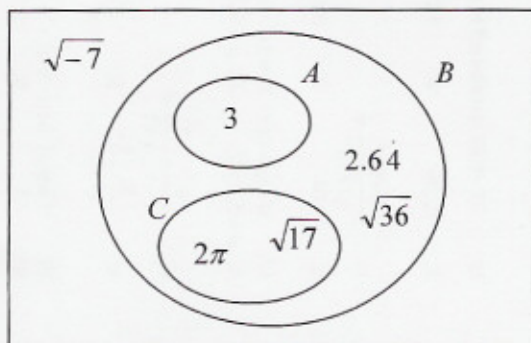
1a) even b) rational or real c) multiple d) $\{ \}$ e) direct

2a)

b) $(Z \cap Y) \cap X'$



3a) i)



E
 ii) $C \cup A = \{3; \sqrt{17}; 2\pi\}$
 iii) $n(B \cap A') = 4$
 iv) $C \subset B$

b) $\{k \in R : k \neq 0, 1\}$

4d) 100 5) $h = 2.1$ m (correct to 2 s.f) 7) $\left(\frac{13\pi}{4} - 6\right) \text{ units}^2$

8a) $(22px - (8\pi - 14)p^2) \text{ cm}^2$ b) $(18px - 16\pi p^2) \text{ cm}^2$

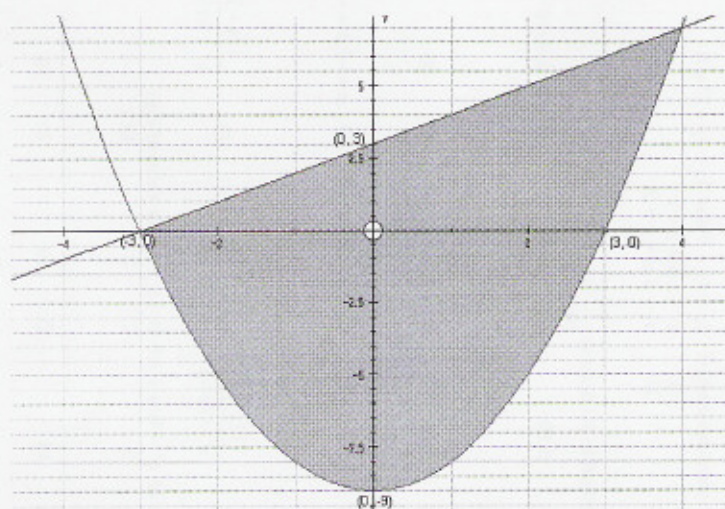
9a) $c = 0$ bi) $d = 0$ ii) $d = 2$ 10a) $x = \frac{3t+3}{4}$, $y = \frac{5-t}{2}$, $z = t, t \in R$

10bi) $\left\{x \in R : \frac{5}{2} \leq x < 4\right\}$ 10bii) $x \in (-\infty, -10] \cup (-1, 2)$

10c) 5 hens and 14 goats 10d) They meet 4.75 hours after Eric left i.e at 10h45.

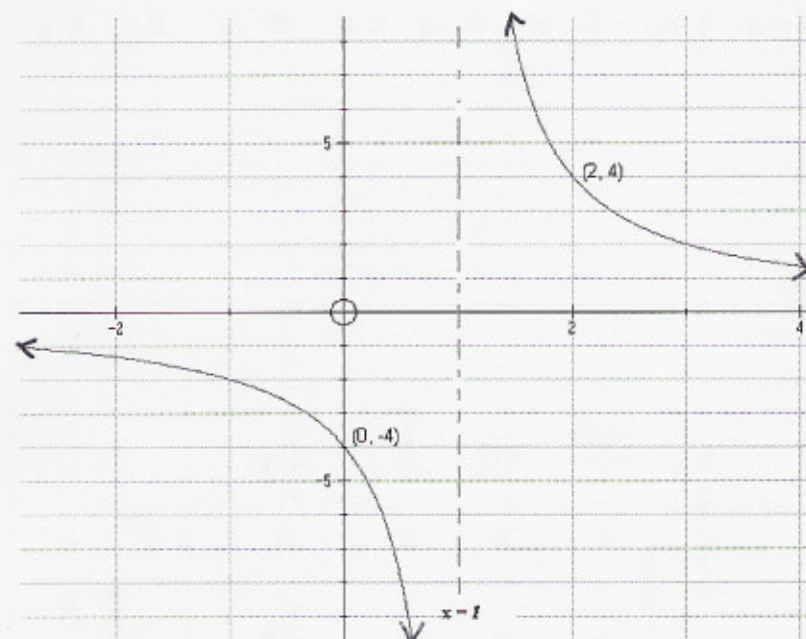
11ai) 16 ii) Range = $y \in [-9, \infty)$ iii) $y = \pm\sqrt{x+9}$ v) $y = \sqrt{x+9}, x > -9$

11vi)



11bi) $(g \circ f)(x) = \frac{4}{x-1}$

bii)



11ci) 9 ii) 5 iii) 12 iv) 0 v) $g(15)$ undefined

12a) $f(x) = 5x + 10$ 12b) $g(x) = x^2 - 2x + 3$