1) $log(p\text{^}2 + 6p) = log7$

$$Log\_10(p\text{^}2 + 6p) = log\_10(7)$$

$$P\text{^}2 + 6p = 7$$

$$(p + 3)\text{^}2 = 7 + 9$$

$$(p + 3)\text{^}2 = 16$$

$$P = 4 - 3 \; or \; -4 - 3$$

$$P = 1 \; or \; -7$$

2) $e\text{^}x - 9e\text{^}x - 22 = 0$

$$let \; e\text{^}x \; be \; y$$

$$(e\text{^}x)\text{^}2 - 9e\text{^}x - 22 = 0$$

$$y\text{^}2 - 9y - 22 = 0$$

$$y\text{^}2 + 2y - 11y - 22 = 0$$

$$y = 11 \; or \; y = -2$$

$$e\text{^}x = 11$$

$$x = ln(11)$$

$$the \; solution \; of \; e^x = -2 \; \; does \; not \; exist$$

3) $log\_3(n - 5) + log\_3(n + 3) = 2$

$$log\_3(n - 5) + log\_3(n + 3) = log\_3(3)\text{^}2$$

$$(n - 5)(n + 3) = 9$$

$$n\text{^}2 - 2n - 15 = 9$$

$$n\text{^}2 - 2n - 24 = 0$$

$$n\text{^}2 + 4n - 6n - 24 = 0$$

$$n(n + 4) - 6(n + 4) = 0$$

$$(n - 6)(n + 4) = 0$$

$$n = -4 \; or \; 6$$