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Question Number: **1**

$$a) \quad x^2 = 4x$$

$$x = 4$$

$$b) \quad \frac{1}{\sqrt{5-2}} \times \frac{\sqrt{5+2}}{\sqrt{5+2}} = \frac{\sqrt{5+2}}{5} = a + b\sqrt{5}$$

$$a = 2 \quad b = 5$$

$$c) \quad (x-1)(x+2) = 25$$

$$d) \quad |2x + 3| = 9$$

$$2x = 6$$

$$x = 3$$

$$e) \quad u = x^2$$

$$u' = 2x$$

$$v = \tan x$$

$$v' = \sec^2 x$$

$$f) \quad \frac{a}{1-r}$$

$$= \frac{1}{1-\frac{1}{3}}$$

$$= 1.5$$

$$2x \tan x + x^2 \sec^2 x$$

$$g) \quad \text{all real } x > 8$$