**Resolução - Casos notáveis**

1.

a) $4x^2 + 28x + 49$

b) $x^2 - \frac{2}{3}x + \frac{1}{9}$

c) $25 - x^2$

d) $25x^2 - \frac{10}{4}x + \frac{1}{16}$

e) $34x^2 - 4x + 2$

f) $-22x^2 - 40x - 16$

g) $-8x - 97$

h) $4x^2 - \frac{4}{49}$

i) $\frac{13}{4}x^2 - 2x + 19$

j) $\frac{10}{9}x^2 - \frac{1}{3}x + \frac{17}{4}$

k) $\frac{3}{25}x^2 + \frac{14}{5}x - 49$

l) $5 + 2\sqrt{6}$

2. $\left(\frac{1}{2} + x\right)^2 = \left(\frac{1}{2}\right)^2 + 2 \times \frac{1}{2}x + x^2 = \frac{1}{4} + x + x^2$

**Opção (C)**

3. $(1 - 3x)^2 - x^2 = 1^2 - 2 \times 1 \times 3x + (3x)^2 - x^2 = 1 - 6x + 9x^2 - x^2 = 1 - 6x + 8x^2$

**Opção (B)**

4. $A_{quadrado} = (2x + 3)^2 = (2x)^2 + 2 \times (2x) \times 3 + 3^2 = 4x^2 + 12x + 9$

**Opção (B)**