① a) $400 \cdot \ell^2 = 36$

$\ell^2 = \dfrac{36}{400}$

$\ell = \dfrac{6:2}{20:2} = \dfrac{3}{10} = 0,3$

área $= 0,3^2 = 0,09 \, m^2$
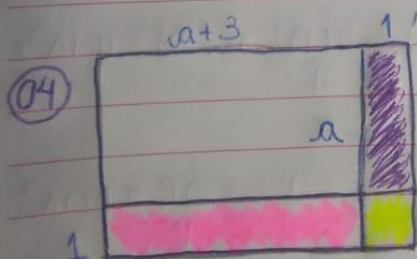
b) $0,3 \cdot 4 = 1,2 \, m$

② $A_1 = x^2 \qquad A_2 = y^2$

$A_2 = 2A_1 \therefore y^2 = 2x^2$

$y = x\sqrt{2} \quad (D)$

③ $\dfrac{b \cdot h}{2} = \dfrac{10 \cdot h}{2} = 15$

$10h = 30$

$h = \dfrac{30}{10} = 3 \quad (D)$

④

rosa $= 1(a+3)$

amarelo $= 1 \cdot 1$

roxo $= 1 \cdot a$

$a + 3 + 1 + a = 16$

$2a + 4 = 16$

$a = 6$

$(a+4) \cdot (a+1) = 10 \cdot 7 = 70 \, cm^2$

⑤

06)

A ⌐ B
2,5 vm | 1,2 vm ⌐ D

6,0 vm

H ⌐ 3,5 m
F ⌐ 0,8 vm ⌐ E
4,0 vm

1)
2,5 vm

6 vm

$A = 2,5 \cdot 6 = 15 \text{ vm}^2$
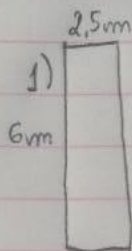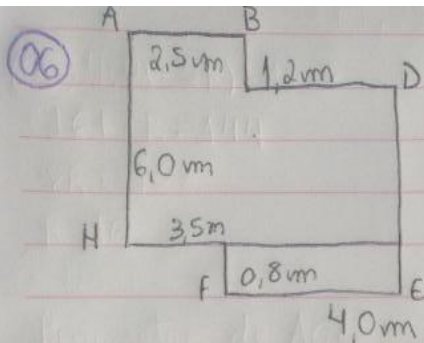
2)
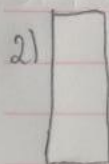
$6 - 1,2 = 4,8$
$3,5 - 2,5 = 1$
$A = 4,8 \cdot 1$
$A = 4,8 \text{ vm}^2$

3) $4,8 + 0,8 \ne 5,6$ $\ell = 4 \to A = 5,6 \cdot 4$
$A = 22,4 \text{ m}^2$

somar: $15 + 4,8 + 22,4 =$
$44,2 \text{ vm}^2$ (E)

07) $(DCFE) = b \cdot h = x \cdot h$
$(ABCD) = 36 \text{ vm}^2 = \dfrac{(B+h) \cdot h}{2}$

$\dfrac{(x+2x) \cdot h}{2} = 36$ $x \cdot h = \dfrac{72}{3} = 24 \text{ m}^2$
$(x+2x) \cdot h = 72$
$3x \cdot h = 72$

08) $\triangle FGH = \dfrac{1}{4}$ + área

altura $\triangle FGH = 1$ e $\triangle ABJ = 4$

área:
2 · área do $\triangle FGH$
área do losango $\to$ 2 da área do $\triangle ABJ$
simplificando $\dfrac{2}{4} \to \dfrac{1}{2}$ (D)

Credeal

(09) $48 - \left(\dfrac{6 \cdot 6}{2} + \dfrac{8 \cdot 2}{2} \right)$

$48 - (18 + 8)$

$48 - 26 = 22$ (E)

(10) $\triangle ADE \sim \triangle ABC$

$\left(\dfrac{AD}{AB} \right)^2 = \dfrac{AP}{AG} \qquad \dfrac{AD^2}{64} = \dfrac{1}{2}$

$\left(\dfrac{AD}{8} \right)^2 = \dfrac{\frac{1}{2}}{AG}$

$2AD^2 = 64$

$AD^2 = 32$

$AD = \sqrt{32} = \sqrt{16 \cdot 2} = 4\sqrt{2}$ (A)

(11) $S_{ABC} = 96 \, cm^2$

$\overline{MN} \rightarrow$ base média do $\triangle ABC$

$\dfrac{S_{AMN}}{S_{ABC}} = k^2 \rightarrow \dfrac{S_{AMN}}{96} = \left(\dfrac{1}{2} \right)^2$

$S_{AMN} = \dfrac{96}{4} = 24 \, cm^2$

$S_{MBCN} = S_{ABC} - S_{AMN} \rightarrow S_{MBCN} = 96 - 24$

$S_{MBCN} = 72 \, cm^2$