1. $(5x+2)^2 = (3x-1)^2 + (4x+3)^2$
   $25x^2 + 20x + 4 = 9x^2 - 6x + 1 + 16x^2 + 24x + 9$
   $25x^2 + 20x + 4 = 25x^2 + 18x + 10$
   $2x = 6$
   $x = 3$ vérification : $17^2 = 8^2 + 15^2$
   $289 = 64 + 225$
2. $x^2 = 21^2 + 30^2$
   $x^2 = 1341$
   $x = \sqrt{1341} \cong 36{,}61 \ldots$
   x mesure 37 cm
3. ΔAXY rectangle en A
   $\overline{XY}^2 = 3^2 + 3^2$
   $\overline{XY}^2 = 18$
   $\overline{XY} = \sqrt{18} = \sqrt{2.3^2} = 3\sqrt{2}$

   ΔDFY rectangle en D
   $\overline{FY}^2 = 5^2 + 5^2$
   $\overline{FY}^2 = 50$
   $\overline{FY} = \sqrt{50} = \sqrt{2.5^2} = 5\sqrt{2}$

   ΔGXF rectangle en G
   $\overline{XF}^2 = 8^2 + 2^2$
   $\overline{XF}^2 = 68$
   $\overline{XF} = \sqrt{68} = \sqrt{2^2.17} = 2\sqrt{17}$

   $\overline{XF}^2 \stackrel{?}{=} \overline{XY}^2 + \overline{YF}^2$
   $68 = 18 + 50$ donc le triangle XYF est rectangle en Y

4. $\overline{AC} = \sqrt{(3-(-4))^2 + (-1-0)^2} = \sqrt{49+1} = \sqrt{50} = \sqrt{2.5^2} = 5\sqrt{2}$