

## Correction de l'intérod

exo 1

1.  $\widehat{ADB} = \widehat{ACB} = 58^\circ$  car ce sont 2 angles inscrits interceptant le même arc  $\widehat{AB}$ .

$\widehat{CEA} = \widehat{CBA} = 32^\circ$  car ce sont 2 angles inscrits interceptant le même arc  $\widehat{CA}$ .

Donc dans le triangle  $ABC$ , on a  $\widehat{CAB} = 180 - 58 - 32 = 90^\circ$ .  
Le triangle  $ABC$  est donc rectangle en  $A$ .

2. Figure.

$$3. \text{Aire}(ABC) = \frac{AB \times AC}{2} = \frac{3 \times 4}{2} = 6.$$

$$\text{Aire}(ABC) = \frac{AH \times BC}{2}$$

or  $BC^2 = AB^2 + AC^2$  d'après Pythagore.

$$BC^2 = 3^2 + 4^2$$

$$BC^2 = 9 + 16$$

$$BC^2 = 25$$

$$BC = 5.$$

$$\text{Donc } \text{Aire}(ABC) = \frac{AH \times 5}{2} = 6$$

$$AH = \frac{2 \times 6}{5}$$

$$\boxed{AH = 2,4}$$

exo 2

$$1. \cos^2 a + \sin^2 a = 1$$

$$\cos^2 a + \left(\frac{5}{13}\right)^2 = 1$$

$$\cos^2 a + \frac{25}{169} = 1$$

$$\cos^2 a = 1 - \frac{25}{169}$$

$$\cos^2 a = \frac{144}{169}$$

$$\cos^2 a = \sqrt{\frac{144}{169}}$$

$$\boxed{\cos a = \frac{12}{13}}$$

$$2. \tan a = \frac{\sin a}{\cos a}$$

$$= \frac{5}{\frac{12}{13}}$$

$$= \frac{5}{13} \times \frac{13}{12}$$

$$\boxed{\tan a = \frac{5}{12}}$$

exo 3

$$1a. E = x^2 - 6x + 9 + 5x^2 - 15x + 2x - 6$$

$$E = 6x^2 - 19x + 3$$

$$b. x^2 - 6x + 9 = (x-3)^2$$

$$c. E = (x-3)^2 + (5x+2)(x-3)$$

$$E = (x-3)(x-3+5x+2)$$

$$E = (x-3)(6x-1)$$

$$d. E = 0$$

$$(x-3)(6x-1) = 0$$

$$\text{Soit } x-3=0 \quad \text{Soit } 6x-1=0$$

$$\boxed{x=3}$$

$$\boxed{x=\frac{1}{6}}$$

$$E = 3$$

$$(x^2 - 19x + 3) = 3$$

$$x^2 - 19x = 0$$

$$x(6x - 19) = 0$$

$$\text{Soit } x=0 \quad \text{Soit } 6x-19=0$$

$$\boxed{x = \frac{19}{6}}$$

0x04

$$2. F = 4x^2 + 4x + 1 - (9x^2 - 12x + 4)$$

$$F = 4x^2 + 4x + 1 - 9x^2 + 12x - 4$$

$$F = -5x^2 + 16x - 3$$

$$2. F = [(2x+1) + (3x-2)][(2x+1) - (3x-2)]$$

$$F = [2x+1+3x-2][2x+1-3x+2]$$

$$F = (5x-1)(-x+3)$$

d.  $F=0$

$$(5x-1)(-x+3) = 0$$

$$\text{Snt } 5x-1=0$$

$$\text{Snt } -x+3=0$$

$$\boxed{x = \frac{1}{5}}$$

$$\boxed{x = 3}$$

$$F = -3$$

$$-5x^2 + 16x - 3 = -3$$

$$-5x^2 + 16x = 0$$

$$x(-5x + 16) = 0$$

$$\text{Snt } \boxed{x=0} \quad \text{Snt } -5x+16=0$$

$$-5x = -16$$

$$\boxed{x = \frac{16}{5}}$$