

# Confection DS 6

## Exercice 1.

$$\begin{array}{rcl}
 4x - 10 & = & 2 \\
 +10 & & \\
 \hline
 4x & = & 12 \quad \downarrow +10 \\
 & & \downarrow \div 4 \\
 x & = & 3
 \end{array}$$

$$\begin{array}{rcl}
 2x - 6 & = & 5x + 4 \\
 -5x & & \\
 \hline
 -3x - 6 & = & 4 \quad \downarrow -5x \\
 +6 & & \\
 \hline
 -3x & = & 10 \quad \downarrow +6 \\
 \div -3 & & \\
 x & = & -\frac{10}{3} \quad \downarrow \div -3
 \end{array}$$

## Exercice 2

1)  $f(6) = -1$       2)  $f(2) = 0$   
 3)  $-1,5$  et  $-1,5$       4)  $-1$       5)  $-2$

## Exercice 3.

1)  $-7 + 5 = -2$   
 $(-2)^2 = 4$   
 $4 - 2 = 2$  on obtient 2.

2)  $f(x) = (x+5)^2 - 2$ .

## Exercice 4

$$\begin{aligned}
 g(-2) &= -3 \times (-2) + 5 \\
 &= 6 + 5 \\
 &= 11
 \end{aligned}$$

$$\begin{aligned}
 g(5) &= -3 \times 5 + 5 \\
 &= -15 + 5 \\
 &= -10
 \end{aligned}$$

$$\begin{aligned}
 g(x) &= 2 \\
 -3x + 5 &= 2 \\
 -3x &= -3 \\
 x &= 1.
 \end{aligned}$$

$$\begin{aligned}
 g(x) &= -15 \\
 -3x + 5 &= -15 \\
 -3x &= -20 \\
 x &= \frac{20}{3}.
 \end{aligned}$$

## Exercice 5

$$\begin{aligned}
 V_{\text{cône}} &= \frac{\pi \times R \times R \times h}{3} \\
 &= \frac{\pi \times 60 \times 60 \times 500}{3} \\
 &= 600\,000 \pi \text{ cm}^3 \\
 &\approx 1\,884\,956 \text{ cm}^3
 \end{aligned}$$

$$\begin{aligned}
 V_{\text{miniature}} &= \left(\frac{1}{20}\right)^3 \times V_{\text{cône}} \\
 &= 75 \pi \text{ cm}^3 \\
 &\approx 235,62 \text{ cm}^3 \\
 &\approx 235\,619,4 \text{ mm}^3.
 \end{aligned}$$