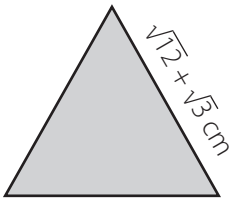
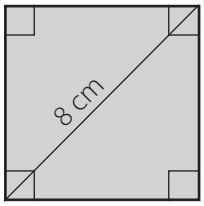
Operaciones con números reales

1. Calcula el perímetro de los siguientes polígonos:

a. El triángulo equilátero.

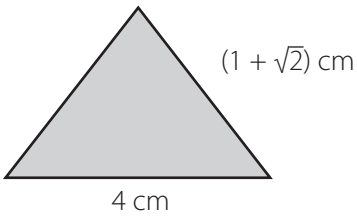


b. El cuadrado, conociendo su diagonal.

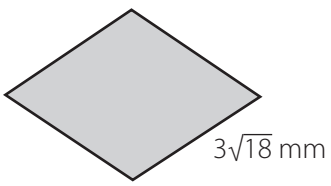


c. El rectángulo.

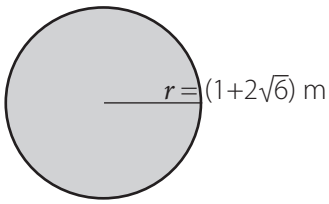
d. El triángulo isósceles.



e. El rombo.



f. El círculo con radio de longitud r.



2. Si $t = \sqrt{(2+\sqrt{3})} - \sqrt{(2+\sqrt{3})}$, calcula:

a. t^2

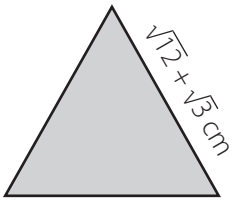
b. $t(t-1)$

3. Sean $x, y, z > 0$, tales que $x^n + y^n = z^n$ con $y = 15$, $z = 16$ y $n = 2$. Determina el valor $d\,x$.

Operaciones con números reales

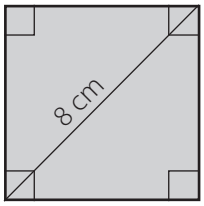
1. Calcula el perímetro de los siguientes polígonos:

a. El triángulo equilátero.



$9\sqrt{3}$ cm

b. El cuadrado, conociendo su diagonal.

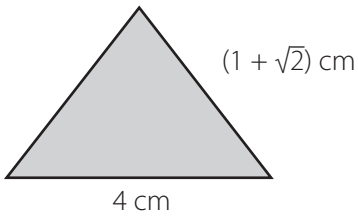


$16\sqrt{2}$ cm

c. El rectángulo.

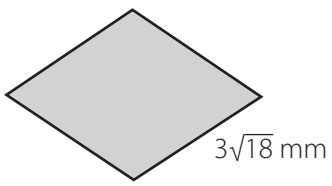
14 cm

d. El triángulo isósceles.



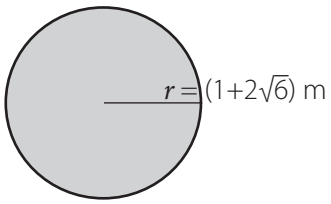
$6 + 2\sqrt{2}$ cm

e. El rombo.



$36\sqrt{2}$ mm

f. El círculo con radio de longitud r.



$(2 + 4\sqrt{6})\pi$ m

2. Si $t = \sqrt{(2 + \sqrt{3})} - \sqrt{(2 + \sqrt{3})}$, calcula:

a. t^2

$$t^2 = \sqrt{(2 + \sqrt{3})} - \sqrt{(2 - \sqrt{3})}^2 = (2 + \sqrt{3}) + (2 - \sqrt{3}) - 2\sqrt{(2 + \sqrt{3})(2 - \sqrt{3})}t^2$$
$$= 4 - 2\sqrt{4 - 3}$$
$$= 4 - 2$$
$$= 2$$

b. $t(t - 1)$

$$t(t-1) = \left(\sqrt{2 + \sqrt{3}} - \sqrt{2 - \sqrt{3}}\right)\left(\sqrt{2 + \sqrt{3}} - \sqrt{(2 - \sqrt{3})}\right) - 1\Big)$$
$$= 2 - \left(\sqrt{2 + \sqrt{3}} + \sqrt{2 - \sqrt{3}}\right)$$

3. Sean $x, y, z > 0$, tales que $x^n + y^n = z^n$ con $y = 15$, $z = 16$ y $n = 2$. Determina el valor $d\,x$.

$$x^n + y^n = z^n \Rightarrow x^2 + 15^2 = 16^2$$
$$x = \sqrt{16^2 - 15^2}$$
$$x = \sqrt{226 - 225} = \sqrt{31}$$