

Correction du devoir n°10 - 3ème

Ex1: ^{13p} 1) $\sqrt{(-25)^2} = 25$; $-(\sqrt{25})^2 = -25$; $-\sqrt{25} = -5$

2) $\frac{\sqrt{9}}{\sqrt{36}} = \frac{3}{6} = \frac{1}{2}$; $\sqrt{\frac{18}{8}} = \sqrt{\frac{9}{4}} = \frac{\sqrt{9}}{\sqrt{4}} = \frac{3}{2}$ $\frac{1}{2}$

3) $\sqrt{45} = \sqrt{5 \times 9} = \sqrt{5} \times \sqrt{9} = 3\sqrt{5}$ $\frac{95}{2}$

4) $\frac{3\sqrt{3}}{\sqrt{6}} = \frac{3\sqrt{3}\sqrt{6}}{\sqrt{6}\sqrt{6}} = \frac{3\sqrt{18}}{6} = \frac{3 \times \sqrt{2 \times 9}}{3 \times 2} = \frac{3\sqrt{2}}{2}$ $\frac{95}{2}$

Ex2: $A = 3\sqrt{2} + \sqrt{8}$
 $\frac{1}{3}$ $= 3\sqrt{2} + \sqrt{4 \times 2}$
 $= 3\sqrt{2} + 2\sqrt{2}$
 $\frac{0,75}{2}$ $= 5\sqrt{2}$

$B = 5\sqrt{12} - 3\sqrt{3}$
 $= 5\sqrt{4 \times 3} - 3\sqrt{3}$
 $= 10\sqrt{3} - 3\sqrt{3}$
 $\frac{9,75}{2}$ $= 7\sqrt{3}$

$C = \sqrt{16} - \sqrt{25}$
 $= 4 - 5 = -1$
 $\frac{95}{2}$

$D = 4\sqrt{45} - \sqrt{20} + 2\sqrt{5}$
 $= 4\sqrt{5 \times 9} - \sqrt{4 \times 5} + 2\sqrt{5}$
 $= 12\sqrt{5} - 2\sqrt{5} + 2\sqrt{5} = 12\sqrt{5}$
 $\frac{1}{2}$

Ex3: $A = (7\sqrt{3} - 2)(3 - 2\sqrt{3})$
 $\frac{1,45}{2}$ $= 21\sqrt{3} - 14 \times 3 - 6 + 4\sqrt{3}$
 $= 25\sqrt{3} - 48$

$B = (4 - 2\sqrt{7})^2$
 $= 16 - 16\sqrt{7} + 28$
 $= 44 - 16\sqrt{7}$

Ex4: 1) $x^2 = 100$
 $\frac{3,5}{2}$ $x = \sqrt{100}$ ou $-\sqrt{100}$
 $S = \{-10; 10\}$

2) $x^2 + 36 = 0$
 $x^2 = -36$ impossible
 $S = \emptyset$

3) $16x^2 = 0$
 $x^2 = 0$
 $x = 0$
 $S = \{0\}$

4) $(x-8)^2 = 49$
 $(x-8)^2 - 7^2 = 0$
 $(x-8+7)(x-8-7) = 0$
 $(x-1)(x-15) = 0$
 $S = \{1; 15\}$