

DS 1. Corrigé.

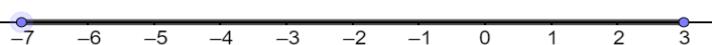
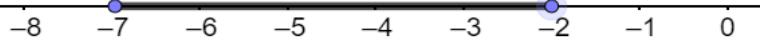
Exercice 1

1° $A = 0,135$ donc $A \in \text{ID}$ et $A \in \mathbb{Q}$; $B = \sqrt{2}$ donc selon le cours $B \notin \text{ID}$ et $B \notin \mathbb{Q}$

$C = \frac{-1}{3} \approx -0,333\cdots$ donc $C \notin \text{ID}$ mais $C \in \mathbb{Q}$ car c'est une fraction. ; $D = \frac{9}{4} = 2,25$ donc $D \in \text{ID}$ et $D \in \mathbb{Q}$

2° $-0,34 \leq \frac{-1}{3} < -0,33$ et $2,25 \leq \frac{9}{4} < 2,26$

Exercice 2

Inégalités	Intervalle	Valeur absolue	Représentation sur la droite graduée
$-1 \leq x \leq 3$	$x \in [-1; 3]$	$ x - 1 \leq 2$	
$-7 \leq x \leq 3$	$x \in [-7; 3]$	$ x + 2 \leq 5$	
$-2 < x < 3$	$x \in]-2; 3[$	$ x - 0,5 < 2,5$	
$-7 \leq x \leq -2$	$x \in [-7; -2]$	$ x + 4,5 < 2,5$	
$2 < x < 4$	$x \in]2; 4[$	$ 3 - x < 1$	

Exercice 3

$$1^{\circ} a = 5 \times 10^{-9} \quad \text{et} \quad b = 4 \times 10^5$$

$$2^{\circ} a \times b = 5 \times 10^{-9} \times 4 \times 10^5 = 20 \times 10^{-4} = 2 \times 10^1 \times 10^{-4} = 2 \times 10^{-3}$$

$$a^2 \times b = (5 \times 10^{-9})^2 \times 4 \times 10^5 = 25 \times 10^{-18} \times 4 \times 10^5 = 100 \times 10^{-13} = 1 \times 10^2 \times 10^{-13} = 1 \times 10^{-11}$$

$$\frac{b}{a} = \frac{4 \times 10^5}{5 \times 10^{-9}} = 0,8 \times 10^{14} = 8 \times 10^{-1} \times 10^4 = 8 \times 10^{13}$$

Exercice 4

$$A = \frac{5}{6} + 3 - \frac{7}{4} = \frac{10}{12} + \frac{36}{12} - \frac{21}{12} = \frac{25}{12}$$

$$B = 2 \times \frac{4}{5} - 3 \times \frac{9}{10} + 1 = \frac{8}{5} - \frac{27}{10} + 1 = \frac{16}{10} - \frac{27}{10} + \frac{10}{10} = \frac{-1}{10}$$

$$C = \frac{\frac{3}{5} - \frac{2}{5}}{7 \times \frac{3}{10} - 1} = \frac{\frac{13}{5}}{\frac{21}{10} - 1} = \frac{\frac{13}{5}}{\frac{11}{10}} = \frac{13}{5} \times \frac{10}{11} = \frac{26}{11}$$

$$D = \frac{\frac{3}{5}}{1 - \frac{1}{\frac{3}{8}}} = \frac{\frac{3}{5}}{1 - \frac{1}{\frac{3}{8}}} = \frac{\frac{3}{5}}{1 - \frac{3}{8}} = \frac{\frac{3}{5}}{\frac{5}{8}} = 3 \times \frac{8}{5} = \frac{24}{5}$$