

Activités mentales ex 4 page 38

Sésamath

Maths TS spécialité



Utiliser l'algorithme d'Euclide pour trouver le PGCD des nombres suivants :

- 1 78 et 108.
- 2 144 et 840.
- 3 202 et 138.

1

$$108 = 78 \times 1 + 30$$

1

$$108 = 78 \times 1 + 30$$

$$78 = 30 \times 2 + 18$$

1

$$108 = 78 \times 1 + 30$$

$$78 = 30 \times 2 + 18$$

$$30 = 18 \times 1 + 12$$

1

$$108 = 78 \times 1 + 30$$

$$78 = 30 \times 2 + 18$$

$$30 = 18 \times 1 + 12$$

$$18 = 12 \times 1 + 6$$

1

$$108 = 78 \times 1 + 30$$

$$78 = 30 \times 2 + 18$$

$$30 = 18 \times 1 + 12$$

$$18 = 12 \times 1 + 6$$

$$12 = 6 \times 2 + 0$$

1

$$108 = 78 \times 1 + 30$$

$$78 = 30 \times 2 + 18$$

$$30 = 18 \times 1 + 12$$

$$18 = 12 \times 1 + 6$$

$$12 = 6 \times 2 + 0$$

donc

$$\text{PGCD}(78, 108) = 6$$

2

$$840 = 144 \times 5 + 120$$

2

$$840 = 144 \times 5 + 120$$

$$144 = 120 \times 1 + 24$$

2

$$840 = 144 \times 5 + 120$$

$$144 = 120 \times 1 + 24$$

$$120 = 24 \times 1 + 0$$

2

$$840 = 144 \times 5 + 120$$

$$144 = 120 \times 1 + 24$$

$$120 = 24 \times 1 + 0$$

donc

$$\text{PGCD}(144, 840) = 24$$

3

$$202 = 138 \times 1 + 64$$

3

$$202 = 138 \times 1 + 64$$

$$138 = 64 \times 2 + 10$$

3

$$202 = 138 \times 1 + 64$$

$$138 = 64 \times 2 + 10$$

$$64 = 10 \times 6 + 4$$

3

$$202 = 138 \times 1 + 64$$

$$138 = 64 \times 2 + 10$$

$$64 = 10 \times 6 + 4$$

$$10 = 4 \times 2 + 2$$

3

$$202 = 138 \times 1 + 64$$

$$138 = 64 \times 2 + 10$$

$$64 = 10 \times 6 + 4$$

$$10 = 4 \times 2 + 2$$

$$4 = 2 \times 2 + 0$$

3

$$202 = 138 \times 1 + 64$$

$$138 = 64 \times 2 + 10$$

$$64 = 10 \times 6 + 4$$

$$10 = 4 \times 2 + 2$$

$$4 = 2 \times 2 + 0$$

donc

$$\text{PGCD}(202, 138) = 2$$