Les racines carrées : Exercices

1. Les nombres suivants sont des réels. Indique le n° de la plage dans laquelle tu les places.

|  |  |  |
| --- | --- | --- |
|  | 5 +  π² | 1,542222….2…. |

1. Calcule

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |

1. Barre les réponses incorrectes.

|  |  |  |  |
| --- | --- | --- | --- |
|  | 9 | -9 | N’existe pas |
|  | 9 | -9 | N’existe pas |
|  | 9 | -9 | N’existe pas |
| 13 = |  |  |  |
| -6 = |  |  |  |

1. Encadre les racines carrées suivantes par deux nombres entiers consécutifs.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ……………….< |  | <…………….... |  | ……………….< |  | <…………….... |
| ……………….< |  | <…………….... |  | ……………….< |  | <…………….... |
| ……………….< |  | <…………….... |  | ……………….< |  | <…………….... |
| ……………….< |  | <…………….... |  | ……………….< |  | <…………….... |

1. Estime les racines carrées suivantes à 0,1 près.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ≈ …………………… |  |  | ≈ …………………… |  | ≈ …………………… |
|  | ≈ …………………… |  |  | ≈ …………………… |  | ≈ …………………… |
|  |  |  |  | ≈ …………………… |  | ≈ …………………… |

1. Complète le tableau suivant.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **a** | **b** |  |  |  |  |  |  |
| 9 | 4 |  |  |  |  |  |  |
| 49 | 25 |  |  |  |  |  |  |
| 169 | 25 |  |  |  |  |  |  |
| 25 | 16 |  |  |  |  |  |  |

Conclusion : Complète par = ou ≠

1. Simplifie les radicaux suivants.

***Série 1***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  |  |  |  |  |  |  |  |

***Série 2***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  |  |  |  |  |  |  |  |

***Série 3 (Les exercices de cette série devront être compléter après avoir fait l’exercice 8).***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |

***Série 4***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  |  |  |  |  |  |  |  |

1. Simplifie les radicaux suivants. Tu dois obtenir une réponse entière.

|  |  |
| --- | --- |
| = ………………………………………………………..  = ……………………………………………………….. | = ………………………………………………………..  = ……………………………………………………….. |

1. Entoure les différentes écritures du nombre donné

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 0,1 = |  |  |  | 10-1 |
| 5 = |  |  |  | (- |
| 2 |  |  |  |  |
|  |  |  |  | 5 |
| -8 = |  | (-2)³ | -2³ | - |
| -25 = | -5² | (-5)² | 5 | 5 |

1. Réduis les sommes suivantes.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |  |
|  | =………………………. |  |  | =………………………. |  |
|  | =………………………. |  |  | =………………………. |  |

……………………………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………………….

……………………………………………………………………………………………………………………………………..

…………………………………………………………………………………………………………………

………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………

………………………………………………………………………………………………………………..

……………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………………….

……………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

1. Réduis les produits suivants.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. | |
|  | =………………………. |  |  | =………………………. | |
|  | =………………………. |  |  | =………………………. | |
|  | =………………….…… |  |  | =………………………. | |
|  | =………………………. |  |  | | =………………………. | |
|  | =………………………. |  |  | | =………………………. | |
|  | =………………………. |  |  | | =………………………. | |
|  | =………………….…… |  |  | | =………………………. | |
|  | =………………………. |  |  | | =………………………. | |
|  | =………………………. |  |  | | =………………………. | |
|  | =………………………. |  |  | | =………………………. | |
|  | =………………….…… |  |  | | =………………………. | |
|  | =………………………. |  |  | | =………………………. | |
|  | =………………….…… |  |  | | =………………….…… | |

1. Distribue et réduis. Attention, avant de distribuer simplifie, si possible, les racines carrées.

……………………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………

……………………………………….……………………………………………………………………………………………

……………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………………

…………………………………………..…………………………………………………………………………………………

……………………………………………..………………………………………………………………………………………

……………………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………………

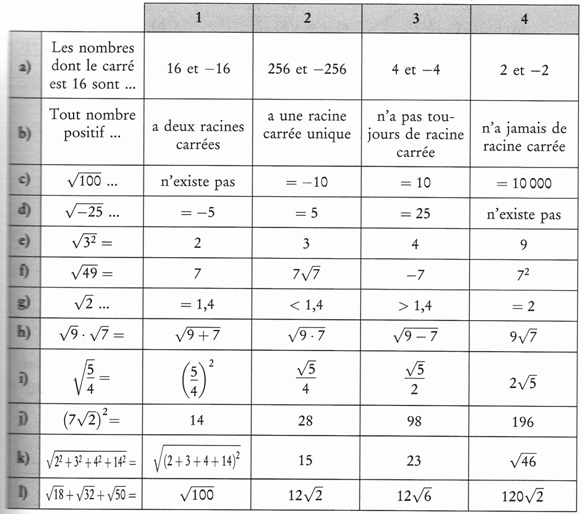
……………………………………….…………………………………………………………………………………

……………………………………….…………………………………………………………………………………

…………………………………………..……..………………………………………………………………………………

………………………………………………….……………………………………………………………………………

1. Pour chaque situation, une seule des quatre réponses proposées est exacte. Trouve la bonne réponse sans utiliser la calculatrice.



1. Rends les dénominateurs rationnels.

|  |  |
| --- | --- |
| = ………………………………………………………………  = ………………………………………………………………  = ………………………………………………………………  = ………………………………………………………………  = ………………………………………………………………  = ………………………………………………………………  = ……………………………………………………………… | = ………………………………………………………………  = ………………………………………………………………  = ………………………………………………………………  = ………………………………………………………………  = ………………………………………………………………  = ………………………………………………………………  = ……………………………………………………………… |

1. Rends les dénominateurs rationnels (méthode du binôme conjugué).

|  |
| --- |
| = ………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =……………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =………………………………………………………………………………………………………………………………  =……………………………………………………………………………………………………………………………… |

10) Calcule en utilisant les produits remarquables.

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………

………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………

……………………………………………………………………………………………………………

1. Calcule en respectant les règles de priorité des opérations.

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

…………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

……………………………………………………………………………………………………………………………

1. Calcule la valeur numérique de l’expression 5x² - 3x + 1 si :

x =

…………………………………………………………………………………………………………………………………………………………………………

x = 2

…………………………………………………………………………………………………………………………………………………………………………

x =

…………………………………………………………………………………………………………………………………………………………………………

1. Simplifie les radicaux suivants (les lettres représentent des réels positifs).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |  |  | =………………………. |

1. Réduis les sommes suivantes (les lettres représentent des réels positifs).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |
|  | =………………….…… |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |

1. Réduis les produits suivants (les lettres représentent des réels positifs).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |
|  | =………………….…… |  |  | =………………………. |
|  | =………………………. |  |  | =………………………. |