

LDDR - Niveau 1-TE3 : Calcul Algebrique

1MG Level 1

PRECALCULUS

TEST

28/09/16

1MG03

/ pts

Name: _____ 45'

WITHOUT THE CALCULATOR

INDICATE YOUR COMPUTATIONS

SIMPLIFY YOUR ANSWERS AS MUCH AS POSSIBLE

➤ EXERCISE 1

1) How do you read « $a^2 < \sqrt{b}$ » ? ...

2) We consider $A = [-2; \infty[$ and $B = [-4; 5[$.

a) How do you read « B » ? « B is

b) Determine $A \cup B =$

c) Determine $\bar{A} \cap B =$

3) Determine $\{x \in \mathbb{R} | x^2 > 5\} =$

➤ EXERCISE 2

1) $\frac{2}{5} - \left(\frac{7}{10}\right)^2 + \frac{35}{4} =$

2) $(e^2 f^{-4})^3 : (\sqrt[3]{e^{-6} f^2})^2 =$

(answer without negative powers)

3) $\sqrt[4]{c^5} \cdot \frac{1}{c^2} =$

4) $(25)^{\frac{1}{2}} : 2^{-2} =$

5) $\sqrt{18} - \sqrt{50} =$

6) $\frac{6}{\sqrt{3}} =$

7) $\frac{3\sqrt{5}}{2-\sqrt{5}} =$

8) $(3 + \sqrt{11})(9 - 2\sqrt{11}) =$

9) $\frac{2m}{m^2-1} - \frac{2}{m+1} =$

➤ **EXERCISE 3**

1) Solve the following equations without using the second degree formula

a) $64x^2 - 25 = 0$

b) $x^5 - 4x^3 = 0$

2) "Complete the squares"

a) $x^2 + 14x - 50 =$

b) $2x^2 - 12x + 220 =$

3) Fill the blanks so that the following equality is a special product

$$9x^4 - 6x^3 + \underline{\hspace{2cm}} = (\underline{\hspace{2cm}} + \underline{\hspace{2cm}})^2$$

4) Simplify the answer as much as possible

$$(x^2 + 8)^2 - (4x - 5)^2 =$$