

# Grade 7 Bilingual Math worksheet: Real number

Name: \_\_\_\_\_

Score: \_\_\_\_\_

Show all work clearly and in order, and circle your final answers. Justify your answers algebraically whenever possible; when you do use your calculator, sketch all relevant graphs and write down all relevant mathematics.

**Due: 26 Aug.**

1. Put all the followings into different categories

$$-\frac{17}{55}, 0.2125645412, 2.35\dot{7}4\dot{6}, \frac{\pi}{3}, 0, 1.23456789\dots$$

- Rational number:
- Irrational number:

2. True or False. Correct it if the statement is false.

(1) -1 is the principal square root of 1

(2) 9 is the square root of 81

(3) -5 has no cube root

(4)  $\sqrt{(-4)^2} = -4$

3. Calculate for each of the following

(1)  $\sqrt{1\frac{13}{36}}$

(2)  $\sqrt[3]{2 + \frac{10}{27}}$

(3)  $\sqrt{(-3)^2}$

(4)  $\sqrt[3]{(-3)^3}$

$$(5) \sqrt[3]{-0.001} + \sqrt{6\frac{1}{4}} - (\sqrt{\frac{4}{5}})^2 + \sqrt[3]{(-\frac{1}{2})^3}$$

4. Solve  $x$  in each of the following equations

$$(1) (-x)^2 = \frac{25}{81}$$

$$(2) 4x^2 = 9$$

$$(3) (\frac{1}{2}x + 3)^3 - 125 = 0$$

5. The square root of a positive number are  $2m + 3$  and  $m + 1$ . Can you find the value of this number?

6. The length of two edges in an isosceles triangle are  $a, b$  and satisfy  $(2a - b)^2 + |9 - a^2| = 0$ . Find the perimeter of this triangle.