

Exercise 2015-12 EA-00001(1)

- (1) Complete the following table by making a ✓ in the appropriate column(s) to which each number belongs:

		N	$\mathbb{N}_0$	$\mathbb{Z}$	$\mathbb{Q}$	$\mathbb{Q}'$	$\mathbb{R}$	$\mathbb{R}'$
(a)	3,412 ...							
(b)	$\sqrt[3]{-8}$							
(c)	$\frac{3}{7}$							
(d)	113							
(e)	$\sqrt{\frac{-12}{4}}$							
(f)	π							

- (2) Given: $P = \sqrt[4]{16x} - 1$. To which of the following numbers system(s) will P belong if: [Number systems: $\mathbb{N}$; $\mathbb{N}_0$; $\mathbb{Z}$; $\mathbb{Q}$; $\mathbb{Q}'$; $\mathbb{R}$ or $\mathbb{R}'$]

(a) $x = \frac{1}{16}$

(b) $x = -1$

(c) $x = 5$

- (3) Between which two integers do the following irrational numbers lie?

(a) $-\sqrt{27}$

(b) $\sqrt[3]{84}$

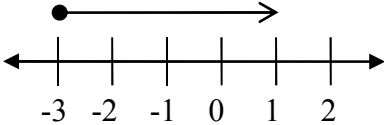
- (4) For which value(s) of x will the following expressions be:

(i) undefined and (ii) non-real?

(a) $\frac{\sqrt{x-3}}{x-3}$

(b) $\frac{5x}{\sqrt{-x}}$

(5) Complete the following table:

	Set builder notation:	Interval notation:	Graphic representation:
(a)	$\{x / -2 < x \leq 1 ; x \in \mathbb{R}\}$		
(b)		$y \in (-\infty ; 0)$	
(c)	$\{m / m \leq 7 ; m \in \mathbb{N}\}$		
(d)			
(e)			