

10) $(-1, -2)$ & $(3, -2)$

Sol: 4

11) $(0, 2)$ & $(-2, 6)$

Sol: $\sqrt{20}$

III) Determine if the set of points forms the vertices of a right triangle.

12) $(1, 1)$ & $(3, 4)$ & $(0, 6)$

Sol: Yes

13) $(-2, 3)$ & $(2, 9)$ & $(-4, 13)$

Sol: Yes

King Abdul Aziz University Mathematics Department Math 110
Workshop 1: Real Numbers.

1) The whole number in $\mathbb{W}$ is

- ☒ $\sqrt[3]{8}$ ☐ -12 ☐ 5.3 ☐ $\frac{2}{3}$

2) The whole number in $\mathbb{W}$ is

- ☐ $-\sqrt[3]{8}$ ☒ 12 ☐ 0.5 ☐ π

3) The whole number in $\mathbb{W}$ is

- ☐ -2 ☐ π ☒ 0 ☐ -3.2

4) The whole number in $\mathbb{W}$ is

- ☐ -2 ☐ π ☐ -3.2 ☒ $\sqrt{25}$

5) The integer in $\mathbb{Z}$ is

- ☒ $\sqrt{25}$ ☐ $\sqrt{-2}$ ☐ 5.3 ☐ $\frac{2}{3}$

6) The integer in $\mathbb{Z}$ is

- ☐ π ☒ 12 ☐ 5.3 ☐ -3.2

7) The integer in $\mathbb{Z}$ is

- ☐ π ☐ $\sqrt{-2}$ ☐ 5.3 ☒ 0

8) The integer in $\mathbb{Z}$ is

- ☐ π ☐ $\sqrt{-2}$ ☒ $-\sqrt[3]{8}$ ☐ 5.3

9) The irrational in $\mathbb{I}$ is

- ☐ 12 ☐ $\sqrt{-2}$ ☒ $\sqrt[3]{4}$ ☐ 0

10) The irrational in $\mathbb{I}$ is

- ☐ $\frac{2}{3}$ ☐ $\sqrt{-2}$ ☐ 0 ☒ $\sqrt[3]{5}$

11)	The rational in $\mathbb{Q}$ is			
☒ $\frac{2}{3}$	☐ $\sqrt{-2}$	☐ $\sqrt[3]{4}$	☐ $\sqrt[3]{5}$	
12)	The rational in $\mathbb{Q}$ is			
☐ $\sqrt[3]{5}$	☐ $-\sqrt{2}$	☐ $\sqrt[3]{4}$	☒ $\sqrt{25}$	
13)	The rational in $\mathbb{Q}$ is			
☐ $\sqrt[3]{5}$	☒ $4\frac{2}{3}$	☐ $\sqrt[3]{4}$	☐ $-\sqrt{2}$	
14)	The natural number in $\mathbb{N}$ is			
☒ 4	☐ $4\frac{2}{3}$	☐ $\sqrt[3]{4}$	☐ -12	
15)	The natural number in $\mathbb{N}$ is			
☒ $\sqrt[3]{125}$	☐ 0	☐ $\sqrt[3]{4}$	☐ -12	
16)	The real number in $\mathbb{R}$ is			
☐ $-\sqrt{-2}$	☐ $\sqrt{-1}$	☐ $\sqrt[4]{-8}$	☒ $-\sqrt{49}$	
17)	$\{x \in \mathbb{R} -3 \leq x \leq 3\} =$			
☒ $[-3, 3]$	☐ $(-3, 3)$	☐ $(-3, 3]$	☐ $[-3, 3)$	
18)	$\{x \in \mathbb{R} -2 < x < 5\} =$			
☐ $[-2, 5]$	☒ $(-2, 5)$	☐ $(-2, 5]$	☐ $[-2, 5)$	
19)	$\{x \in \mathbb{R} -2 \leq x < 5\} =$			
☐ $[-2, 5]$	☐ $(-2, 5)$	☐ $(-2, 5]$	☒ $[-2, 5)$	
20)	$\{x \in \mathbb{R} -2 < x \leq 5\} =$			
☐ $[-2, 5]$	☐ $(-2, 5)$	☒ $(-2, 5]$	☐ $[-2, 5)$	
21)	$\{x \in \mathbb{R} x \leq -2\} =$			
☒ $(-\infty, -2]$	☐ $(-\infty, -2)$	☐ $(-2, \infty)$	☐ $[-2, \infty)$	
22)	$\{x \in \mathbb{R} x \geq -2\} =$			
☐ $(-\infty, -2]$	☐ $(-\infty, -2)$			☒ $[-2, \infty)$
☐ $(-2, \infty)$				
23)	$\{x \in \mathbb{R} x < -2\} =$			
☐ $(-\infty, -2]$	☒ $(-\infty, -2)$	☐ $(-2, \infty)$	☐ $[-2, \infty)$	

24)	$\{x \in \mathbb{R} x > -2\} =$	☐ A $(-\infty, -2]$	☐ B $(-\infty, -2)$	☒ C $(-2, \infty)$	☐ D $[-2, \infty)$
25)	$6 \notin$	☐ A $\mathbb{R}$	☐ B $\mathbb{N}$	☐ C $\mathbb{Q}$	☒ D $\mathbb{I}$
26)	$3.2 \in$	☐ A $\mathbb{Z}$	☐ B $\mathbb{N}$	☒ C $\mathbb{Q}$	☐ D $\mathbb{I}$
27)	$-\sqrt{6} \in$	☐ A $\mathbb{W}$	☐ B $\mathbb{N}$	☐ C $\mathbb{Q}$	☒ D $\mathbb{I}$
28)	$\mathbb{Q} \subset$	☒ A $\mathbb{R}$	☐ B $\mathbb{N}$	☐ C $\mathbb{W}$	☐ D $\mathbb{I}$
29)	$\mathbb{I} \subset$	☐ A $\mathbb{Q}$	☐ B $\mathbb{N}$	☐ C $\mathbb{W}$	☒ D $\mathbb{R}$
30)	$\mathbb{W} \subset$	☐ A $\emptyset$	☐ B $\mathbb{N}$	☐ C $\mathbb{I}$	☒ D $\mathbb{Z}$
31)	$ -7.2 =$	☐ A -7.2	☒ B 7.2	☐ C ± 7.2	☐ D -9
32)	$ 0.14 - \pi =$	☐ A -3	☐ B 3.14	☐ C ± 3	☒ D 3
33)	The distance between the real numbers $-5, 6$ is	☐ A -11	☒ B 11	☐ C -1	☐ D 1
34)	The distance between the real numbers $\frac{15}{8}, \frac{23}{12}$ is	☐ A $-\frac{1}{24}$	☐ B $\pm \frac{1}{24}$	☐ C $\frac{1}{12}$	☒ D $\frac{1}{24}$
35)	The distance between the points $(-2, -5)$ and $(3, 1)$ is	☒ A $\sqrt{61}$	☐ B $\sqrt{15}$	☐ C $\sqrt{37}$	☐ D $\sqrt{11}$
36)	The solution of $ 3x + 2 = 11$ is	☐ A $-\frac{3}{13}, \frac{1}{3}$	☒ B $-\frac{13}{3}, 3$	☐ C $-\frac{13}{3}$	☐ D 3
37)	The solution of $ 8x - 3 - 2 = 5$ is	☒ A $-\frac{1}{2}, \frac{5}{4}$	☐ B $\frac{1}{2}, \frac{5}{4}$	☐ C $-\frac{1}{2}$	☐ D $\frac{5}{4}$

38) The solution of $-2 < 2x + 1 \leq 6$ is

- ☐ A $\left[-\frac{3}{2}, \frac{5}{2}\right)$ ☐ B $(-3, 4]$ ☐ C $\left(-\frac{1}{2}, \frac{7}{2}\right]$ ☒ D $\left(-\frac{3}{2}, \frac{5}{2}\right]$

39) The solution of $|x - 4| \leq 12$ is

- ☐ A $(-\infty, -8] \cup [16, \infty)$ ☒ B $[-8, 16]$ ☐ C $(-\infty, -16] \cup [8, \infty)$ ☐ D $(-8, 16)$

40) The solution of $|x + 6| \geq 5$ is

- ☒ A $(-\infty, -11] \cup [-1, \infty)$ ☐ B $[-11, 1]$ ☐ C $(-\infty, 1] \cup [11, \infty)$ ☐ D $(1, 11)$

41) The solution of $|x - 3| > 5$ is

- ☐ A $(-\infty, -2] \cup [8, \infty)$ ☐ B $[-2, 8]$ ☒ C $(-\infty, -2) \cup (8, \infty)$ ☐ D $(-2, 8)$

42) The solution of $|x + 4| = 3x - 8$ is

- ☐ A 1 ☐ B -6, -1 ☒ C 1, 6 ☐ D 6

With best wishes from Professor Hamza Ali Abujabal (Room#404)

MSN: Prof.h.abujabal@hotmail.com

E-mail: prof_h_abujabal@yahoo.com