

4HomeWork 102.py - C:/Users/ykt27/AppData/Local/Programs/Python/Python38-32/4HomeWork 102.py (3.8.1)

```
File Edit Format Run Options Window Help
#take the input the age of three finisher
first =int(input("Enter the age of the first finisher: "))
second =int(input("Enter the age of the second finisher: "))
third =int(input("Enter the age of third finisher: "))
youngest =min(first,second,third)
#print the age of the youngest finisher
print("Age of the youngest finsher is ", youngest)
```

Ln: 7 Col: 49

Type here to search

9:09 PM 2/18/2020

Python 3.8.1 Shell

```
File Edit Shell Debug Options Window Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ykt27/AppData/Local/Programs/Python/Python38-32/4HomeWork 102.py
Enter the age of the first finisher: 19
Enter the age of the second finisher: 23
Enter the age of third finisher: 35
Age of the youngest finsher is  19
>>>
```

Ln: 9 Col: 4

Type here to search

9:09 PM 2/18/2020

$$3. a) f(x) = \frac{-3}{x+2}$$

$$x+2=0$$

$$x = \underline{\underline{-2}}$$

$$\text{Domain (D)} \rightarrow \{x \in \mathbb{R}, x \neq -2\}$$

$$\text{Range (R)} \rightarrow \{f(x) \in \mathbb{R} \mid f(x) \neq 0\}$$

$$b) g(x) = \sqrt{3x-1} + 5$$

$$3x-1 \geq 0$$

$$3x \geq 0+1$$

$$3x \geq \frac{1}{3}$$

$$x \geq \frac{1}{3}$$

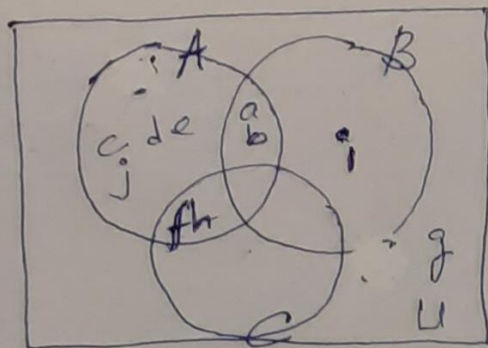
$$\text{Domain (D)} \rightarrow \{x \in \mathbb{R} \mid x \geq \frac{1}{3}\}$$

$$\text{Range (R)} \rightarrow \{x \in \mathbb{R} \mid f(x) \geq 5\}$$

4. f)

| | a | i | b | Subsets |
|---|---|---|---|---------------|
| 1 | 1 | 1 | 1 | $\{a, i, b\}$ |
| 1 | 1 | 1 | 0 | $\{a, i\}$ |
| 1 | 1 | 0 | 1 | $\{a, b\}$ |
| 1 | 1 | 0 | 0 | $\{a\}$ |
| 0 | 1 | 1 | 1 | $\{i, b\}$ |
| 0 | 1 | 1 | 0 | $\{i\}$ |
| 0 | 1 | 0 | 1 | $\{b\}$ |
| 0 | 1 | 0 | 0 | $\{ \}$ |

a)



- b) Yes b/c all elements of A are not found in B
 c) Yes " " " " " C " found in A
 d) No b/c all elements in B are not found in C
 f)

g) $A \cup C = \{a, b, c, d, e, f, h\}$

h) $(A \cup C)^c = \{i, j\}$

i) $B \cap A \cup C = \{f, h\}$

$(a, b, c, d, e, f, h, i) \cap \{f, h\} = \{f, h\}$

2) $\overline{(A \cap B' \cap C)} = \overline{(A \cap B' \cap C)}'$

- $(A \cap B' \cap C)'$ original expression
 $((A \cap C) \cap B')'$ associative property
 $(A \cap C)' \cup (B')'$ demorgan's Law
 $(A \cap C)' \cup B$ property of Complements
 $A' \cup C' \cup B$ demorgan's law
 $A' \cup B \cup C'$ Commutative property