

Santos Bonedo
11-04-20
CCL28

Mision Work

Let $A = \{1, 2, 3, 4, 5, 6\}$

$B = \{2, 4, 6\}$

$C = \{1, 2, 3\}$, and True or False?

$D = \{3, 8, 9\}$

1. $A \subseteq B? \rightarrow$ True

2. $B \subseteq A? \rightarrow$ True

3. $\{3\} \subseteq C? \rightarrow$ False

4. $C \subseteq A? \rightarrow$ False

$A = \{1, 2, 3, 4, 5, 6\}$ $C = \{1, 2, 3\}$

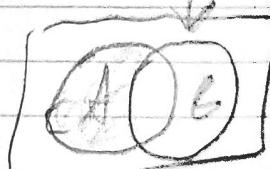
$B = \{2, 4, 6\}$ $D = \{3, 8, 9\}$

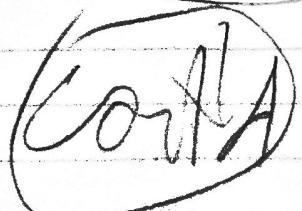
Untrue & $V = \{1, 2, \dots, 10\}$

5. $A \setminus B$ (In other words $A - B$)? $\rightarrow \{1, 3, 5\}$
 $A \setminus B \rightarrow$ A ring & \rightarrow Relative difference.

Clarification: $A \setminus B$ is not B but not in B

$A \setminus B = \{x | x \in A \text{ and } x \notin B\}$ $A \setminus B = \{1, 3, 5\}$





(Contd)

$$6. \emptyset \cup C = \{1, 2, 3\}$$

$\emptyset \rightarrow$ null set, empty, containing no elements

$$\emptyset \cup C = \{1, 2, 3\}$$

$$7. \emptyset \cap D = \{7, 8, 9\}$$

Intersection of A and B is a set which contains common to both A and B

$$(A \cap B) = \{x | x \in A \text{ and } x \in B\}$$

Identity law:

$$A \cup \emptyset = A \quad A \cap \emptyset = \emptyset$$

$$A \cap U = A \quad A \cup U = U$$

$$(\emptyset \cap B = \emptyset)$$

$$8. (B \cup C)^c \rightarrow \text{Every set in P is union of B and C}$$

$$B = \{2, 4, 6\} \quad B \cup C = \{2, 3, 4, 6\}$$

$$C = \{6, 2, 3\} \quad U = \{1, 2, \dots, 10\}$$

$$(B \cup C)^c = \{5, 7, 8, 9, 10\}$$

(Contd)

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11-04-20
WL 28

Midterm Work

Cont'd

9. Find no. counts of sets of ad B such that
 $A \cap B = 4$, $B \cap C = 3$, and $A \cup B \cup C = 9$.

$A = ?$ $|A| = 4$ includes 1g length of
Set A.

$B = ?$ $|B| = 3$ includes 1g length of
Set B.

$A \cup B = ?$ $|A \cup B| = 9$ includes 1g length of
Set A.

$A = \{$ Superior, Pathway, Plasty, Take, Hulk $\}$

$B = \{$ Ironman, Epiderm, Molok, Danos, Hulk $\}$

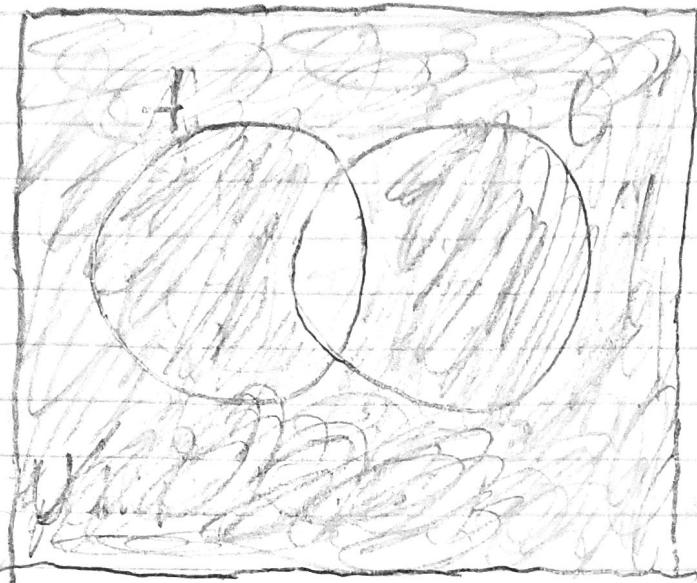
$A \cup B = \{$ Superior, Epiderm, Plasty, Take,
Ironman, Epiderm, Molok, Danos, Hulk $\}$

10. a) $A \cup B = B$ Horizontal bar on top
→ It's same as original

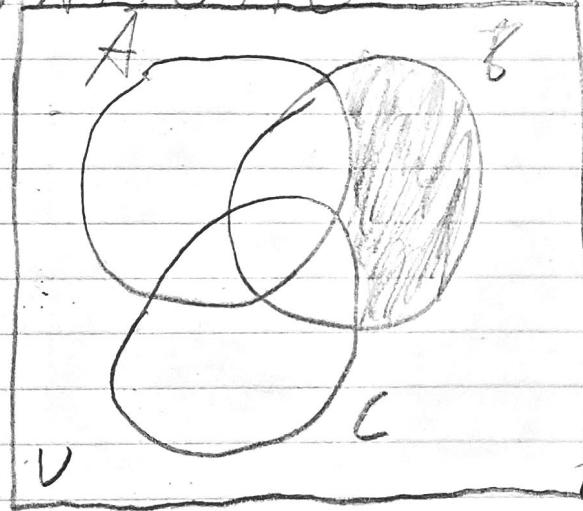


Sat May 11-04-20
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Vol 28

WAVE



DATA \Rightarrow Only Read A
and C

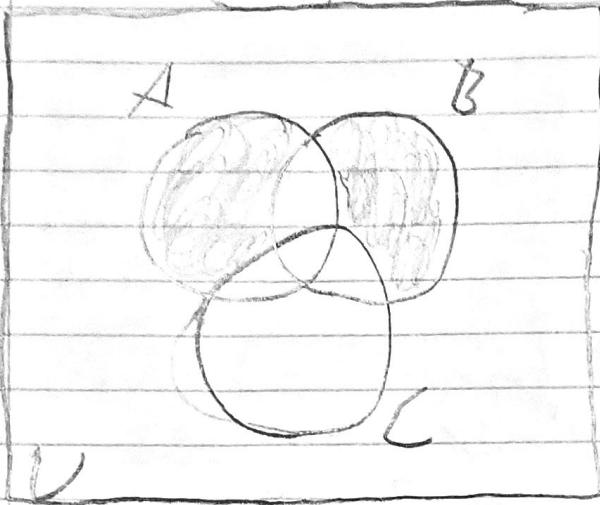


Saturday

Ramsey
11-04-20

CSC 78

DCA-B) VCA-C) VCB-D)
Yellow Work



II. 4 cos ad 3 books (all in use)

7 cos others ad 8 hard papers

$$7C_4 \Rightarrow \frac{7!}{(7-4)!4!} = \frac{5040}{6 \times 24} = 35$$

$$8C_3 \Rightarrow \frac{8!}{(8-3)!3!} = \frac{40,320}{120 \times 6} = 356$$

$$35 \times 356 = 1260$$

Sardia Leucostoma
W-04-20
CSC 28

12. Pick by Org ABC at Datas as EAC
Orgs represent.

Surfaces does
have more ways to check 3.)

$$6 \star 5 \star 4 > 00$$

- ## 13. PHOTOCOPY address

$$P=2 \quad H=1 \quad Q=3 \quad T=1 \quad C=1 \quad Y=1$$

$\frac{9!}{2!1!3!1!1!1!} = 30240$

For 10 all foods 10 C₂ $\frac{10?}{100?^2}$ $\frac{262600}{50000}$ 5120

3-Tarong. ~~gizgas?~~ (120) 

Total pizzas 0-1 toppings? (no double toppings)

$$\begin{array}{l} 10C_0 \quad 10C_1 + 10C_2 + 10C_4 + 10C_5 + 10C_6 \quad 10C_7 \\ | \qquad 10 \quad 120 \quad 210 \quad 252 \quad 210 + 120 + 10 + 1 \end{array}$$

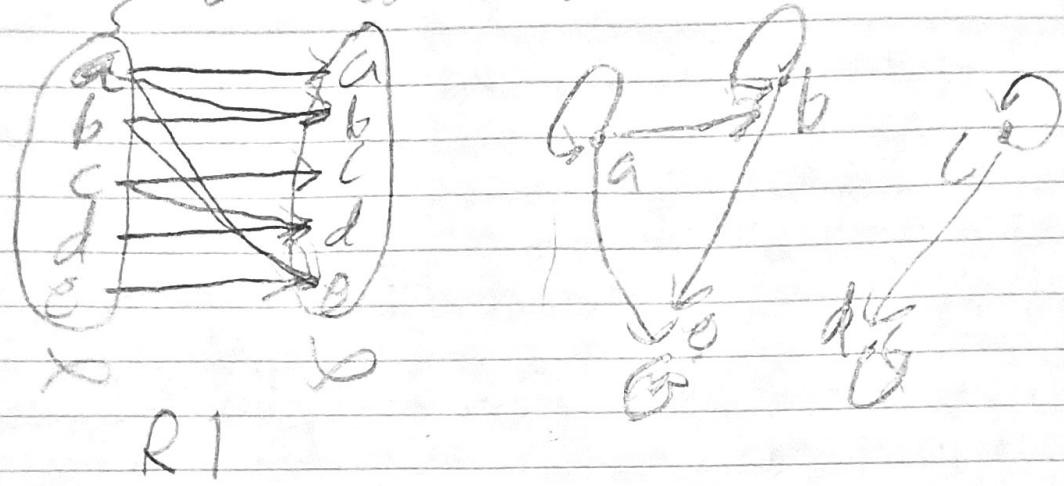
$$1064^2 \frac{10!}{(10-4)!} = \frac{302880}{720 \cdot 24} = 220$$

$$1065^2 \frac{101}{(10-9.5)} = 2282 \quad 1065^2 \frac{101}{(10-9.5)} =$$

Santos Bonduor
11-04-20
LSC 26

Multimap Notk
 $\Sigma = \{a, b, c, d, e\}$

$R_1 = \{(a, a), (a, b), (a, c), (a, d), (a, e), (b, c), (b, d), (c, d)\}$



R_1

15. R_1 is Symmetric? False

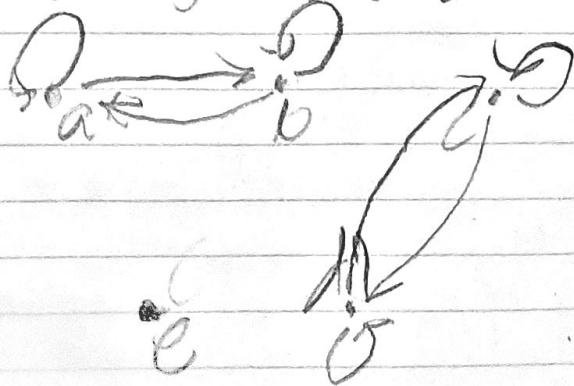
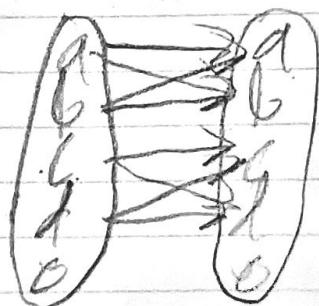
16. R_1 is reflexive? True

17. R_1 is Transitive? True

18. R_1 is Anti-symmetric? True

$\Sigma = \{a, b, c, d, e\}$

$R_2 = \{(a, a), (a, b), (b, a), (b, b), (c, d), (c, e), (d, c), (d, e), (e, d)\}$



San Diego Bomberd
11-24-20
Loc 26

18. R2 is TautHvo? False

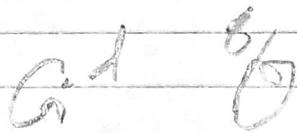
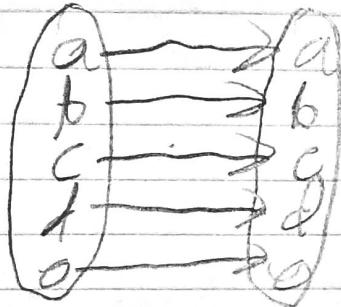
19. R2 is Anti-Symmetric? True

20. R2 is Reflexive? False

21. R2 is Symmetric? False

22. R2 is Transitive? False

$$\Delta = \{(a, b), (b, c), (c, a)\} \quad R_3 = \{(a, a), (b, b), (c, c), (a, b), (b, c)\}$$



23. R3 is Anti-Symmetric? False

24. R3 is TautHvo? False

25. R3 is Symmetric? True

26. R3 is Reflexive? True

BoHago Fernández
11-09-20
CSC 28

Midterm Test
relation R on \mathbb{Z}^+ (Set of positive integers)

$a, b \in \mathbb{Z}$ and b are relatively prime (Not 0)
if & only integer d such divides both a and
 b is 1.

$$(2, 3), (3, 5), (5, 7), (3, 7), (5, 7)$$

~~(1, 1), (2, 2), (3, 3), (4, 4), (5, 5)~~

1 is not a prime number!

21. There is a sub σ such that $\sigma(7) = 7$?

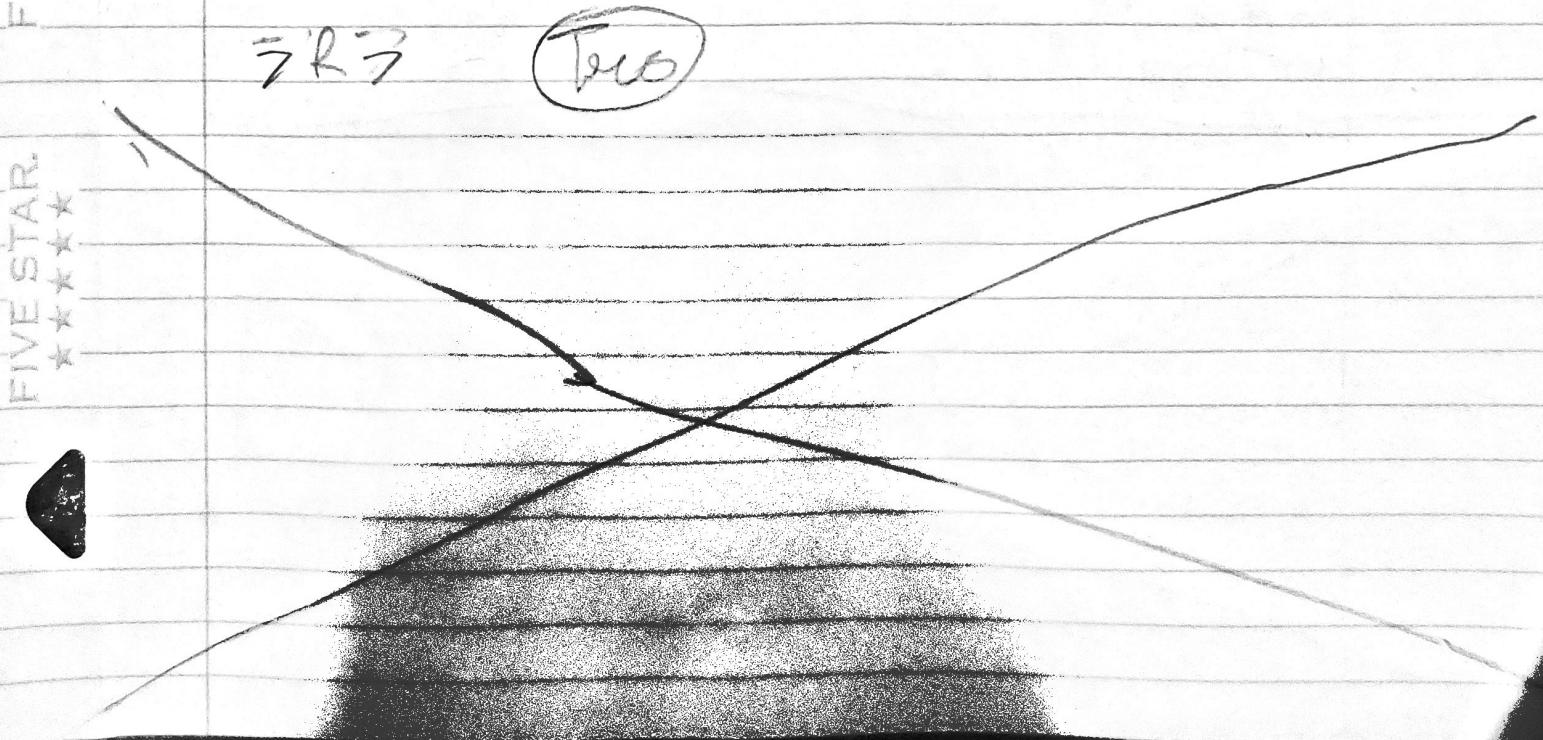
~~$\sigma(7) = 7$ (True)~~

$$3 \not\mid 7 = (3, 7)$$

22. $8 \mid 12$? (False)

23. There is a sub σ such that $\sigma(7) \neq 7$?

~~$7 \not\mid 3$ (True)~~

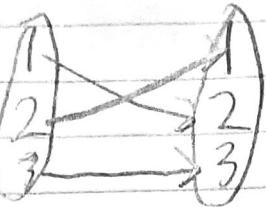


Santiago Banderas
11-04-20
C6C28

30.

g)

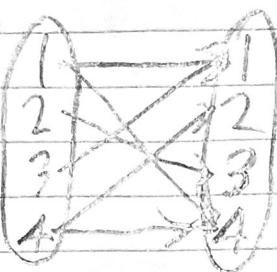
	1	2	3
1	0	1	0
2	1	0	0
3	0	2	1



$$R = \{(1,2), (2,1), (3,3)\}$$

b)

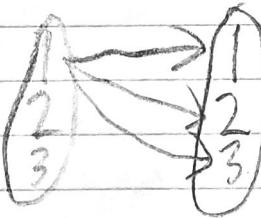
	1	2	3	4
1	1	0	0	1
2	0	0	1	0
3	1	0	0	0
4	0	1	0	1



$$R = \{(1,2), (2,3), (3,4), (4,1), (1,1), (2,2), (3,3)\}$$

c)

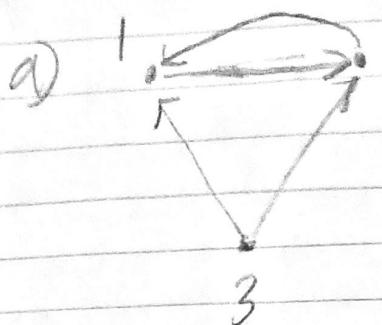
	1	2	3
1	1	1	1
2	0	0	0
3	0	0	0



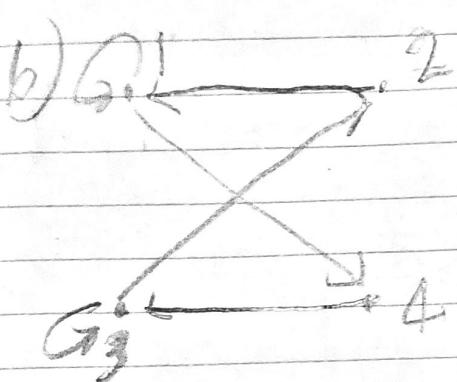
$$R = \{(1,1), (1,2), (1,3)\}$$

Midterm Work

31.



	1	2	3
1	0	1	0
2	1	0	0
3	1	1	0



	1	2	3	4
1	1	0	0	1
2	1	0	0	0
3	0	1	1	0
4	0	0	1	0

32. Let R be a relation defined on $\{a, b, c\}$

cd $\in R$ and $(i, j) \in R$

$a(a, b) \in R$ and $(b, d) \in R$ Then $(a, d) \in R$
 was ac is the concatenation of ~~the strings~~
 and c and b and bd is the concatenation of
 the strings b and d .

writing down in R

$$\begin{matrix} (0, 1) \\ ac \\ \hline b \\ bd \end{matrix}$$

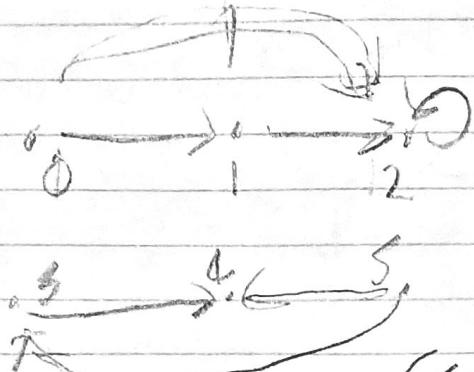
$$\begin{matrix} (1, 0) \\ ab \\ \hline b \\ bd \end{matrix}$$

Santos Rosario
11-04-20
CSC 28

Multilevel Walk

36. $\{6, 1\} \in \{2, 3\} \in \{4, 3\}$

Location: $\{E(0, 1), (1, 2), (2, 2), (3, 4), (5, 3), (5, 4)\}^3$



$\{E(0, 1), (1, 2), (2, 2), (3, 4)\}^3$

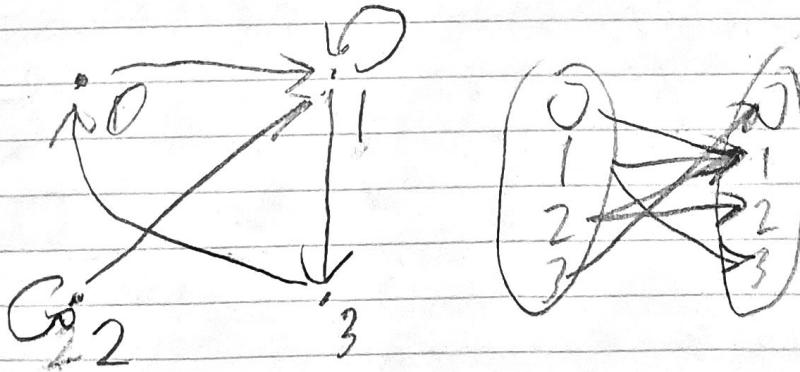
$E(0, 0) \in D(1, 2) \in E(3, 2) \in A(4, 3) \in S(5, 3)$

$C(2, 2) \in A(3)$

$\{E(0, 1), (1, 1), (1, 2), (5, 3), (5, 4)\}^3$

$\{E(0, 1), (0, 2), (1, 2), (2, 2), (3, 1), (5, 3)\}^3$

37. $L = \{E(0, 1), (1, 1), (1, 3), (2, 1), (2, 2), (3, 0)\}^3 \quad E(0, 1, 2, 3) \in A$



Sandiego

Boards
11-04-20
CSL 26

38. Dog $\delta(A=2) = 1$

$\delta(A=3) = 1$

Dog $\Rightarrow \delta(g(b)) = 2(B \times J) + 1$

~~$\delta(g(b)) = 6 \times 9 + 1$~~

39. The value of $\lfloor 1/2 \cdot 1.5/2 \rfloor$ is?

$\text{Floor}(1/2), \text{Floor}(6/5)$ $1.5 \times 1.5 = 2.25$

$\frac{1}{2} \cdot 1.2 - 1$

$\frac{1}{2}$

~~Floor $\lceil \rceil = D$~~

40. $\delta(g) = -3x^2 + 7$

$-3(1)^2 + 7 = 4$ False

$-3(-1)^2 + 7 = 4$

$x = 1, 4$

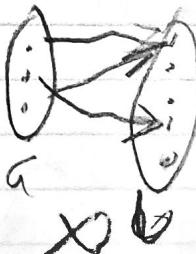
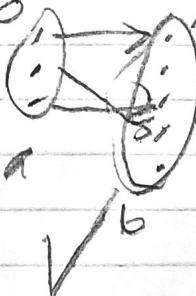
$x = -1, 4$

Is it injection from \mathbb{R} to \mathbb{R}

or not?

↓
Real numbers

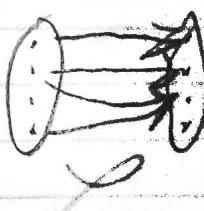
Injective



Not injective

so not
bijective

Bijective



Saturday 8:00 AM
18-04-20
CSC 26

Middle Work

41. $8(x) = -3x + 4$

$$-3(1) + 4 = 1$$

$$-3(1) + 4 = 1$$

(True)

Below we will check each of these numbers from 2 to 2 is 0.6 to -0.6 or not.

42. $P(n) = n^2 + 1$

values $2^2 + 1 = 2, -1, 0, 1$

$$\begin{aligned} (-1)^2 + 1 &= 2 \\ 0^2 + 1 &= 2 \end{aligned}$$

not factors \Rightarrow False

$$\begin{aligned} 1^2 - 1 &\leq 2 \\ 0^2 + 1 &\leq 2 \end{aligned}$$

43. $P(n) = n - 1 \Rightarrow$ factors \Rightarrow True

44. $[1, 5] \rightarrow D$

$$[-2, 6] \rightarrow F$$

$$[1, 1] \rightarrow D$$

$$[-1, 3] \rightarrow D$$