proporties of Relations. ?

Reflexive, Symmetere.

Structures.

- Set

- Matrices

- Graph.

- Tres

Az & 2,2,3,46.

Auti Symme fore:
Vxiy ib (xiy) ERA (y,x) ER-> x=y|

P - 9.

Ex7:

R12 531

222 g(2,1)} V

Rs 2 & (42)?.V

Puz h (2/2), (1/3), (1/4), (2/3) }.

Transitive Proporty.

Yxigit if (xig) ER N(yiz) ER -> (xiz) ER.

161 R12 93. V

(12 9 9 .)

Prz d (11)? /

Υ

Az & 1,213143.

R12 d (40)? / X.
R3 = \((42), (213), (013), (314), (114), (014) \(\frac{1}{4}. \)
\(\frac{1}{4} \frac{1}{4} \frac{1}{4}. \) 1) Replicaire 2) Symmetric 3) Aut Symmetric 4) Transitive Reh (a16) la divide 63. Az Zt. Eal2: 463 Reflexive: YXEA (X,X) ER. 1 Yx EZT X divides X. Symmetric: HxyEA if (xy)ER -> (y,x)ER. $\forall xy \in \mathbb{Z}^+$ if x divides $y \to y$ divides x. x.

1 divides $y \to y$ divides $y \to y$.

1 divides $y \to y$ divides $y \to y$. Auti Symmetor Vxy if (xy) ER A (yix) ER > n=y.

Hxiy E 2+ if x divides y A y divides x -> xzy. Transitive Hxijiz if (xij) ER A (yiz) ER -> (xiz) ER.
Hxijiz zt if x divides y A y divides z -> x divides z. Mx.y, t & Z' 16 x arviag of of airious t -1 x airious t.

Invesc of a Relation R-1 R-12 & Chia) | (a1b) ER3.

R2 f (2,2), (2,2) 3. P-12 f (2,0), (2,2) 3.

Complement of a Relation R. (2rd (a,b) (a,b) & Rs.

R2 d (212) ?. AxA2 h L4 D, (42), (2,1), (2,2)3.

AXA -R2 & (412), (212)/3.

Rty=0.

R24 (a1b) | x2 + yf. A2 R.

467 R24 (arb) | x-11

lighterive: YXEA (X,X) ER. YxER zzn V zz-z

Symmetric: HxyEA if (xy)ER -> (y,x)ER.

YnyER

Auti Symmetrie Hxy if (xig) ER A (yix) ER -> nzy.
HxigE

Transition Hxijiz if (xig) ER A (yiz) ER -> (xiz) ER.
Hxigit E

 E_{X17} : A_{2} A_{3} A_{3} A_{4} A_{5} A_{5} A

R2 1 R2 f (42) ?.

R1 O R2 f (44) ((2,2), (3,3), (42), (4,3), (1,4)?.

R1 - R2 f (2,2), (3,3)?.

R2 - R1 ?

Er 466-468

Composite: R (a16) ANB.

S (610) BXC.

SOR (aIC).

(aIC) E SOR if (aID) ER A (bIC) ES.

P465 S BRC. B=\$42,336.

K MAD. P465 S Bac.

HZ9 40171. Bz & 1,2,3,48 (2h 0142).

R2 9 (11), (14), (213), (311), (3193. Sz & (40), (210), (310), (312), (411).

S.R 27

SOR (aIC). CII) ER N. (IIO) ES.

(aIC) E SOR ID (aID) ER N (bIC) ES. (110) & S.R.

SoRz 1(2,0), (41), (2,1), (2,2), (3,0, (3,1)?.

Ros + SOR.

R2 R.R27

Ros 27.

R32 R2. R.

Ruz Ru-1.R.

