

// check is p.t.d

$$p(2) = 2(2)^2 + 3(2) + 1 = 8 + 6 + 1 = 15$$

$$q(2) = (2)^2 + 2(1) + 2 = 4 + 2 + 2 = 8$$

~~property~~: it is not reflexive, it is not symmetric, it is not transitive

it is NOT an equivalence relation

4) example

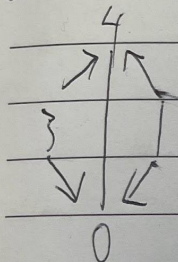
$$(x, y) = (6, 15) \quad \& \quad (y, z) = (15, 30)$$

both of the ~~equation~~ both satisfy the relation since there are integers greater than 1. The equation is not an equivalence relation on positive int numbers strictly greater than one (271)

### Assignment 3

1. List all elements of the set  $(0, 1, 2, 3, 4)$

2. Draw arrows from each node 'x' to another node 'y' if  $x+y=4$



3. On people:  $aRb$  iff  $a$  &  $b$  both like carrots

the relation is symmetric, the relation is antisymmetric, the relation is transitive

4.  $T$  is a relation on the set of 2D vectors,  $UTV$  iff  $U+V=[1;2]$

the relation is not reflexive, the relation is not antisymmetric.

the relation is symmetric, the relation is transitive

5. an example in relation  $f$  can be:

$$p(x) = 2x^2 + 3x + 1$$

$$q(x) = x^2 + 2x + 2$$