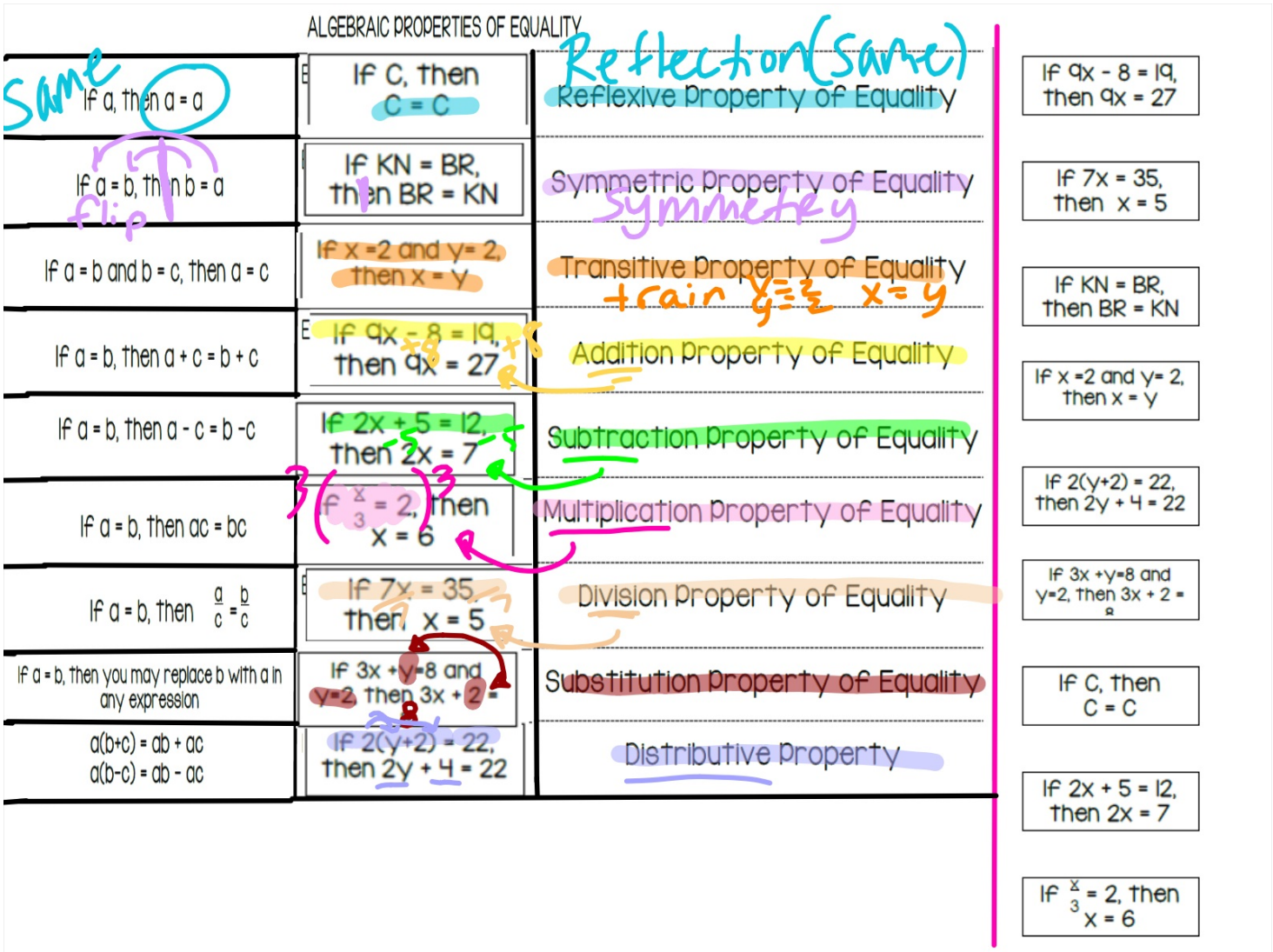
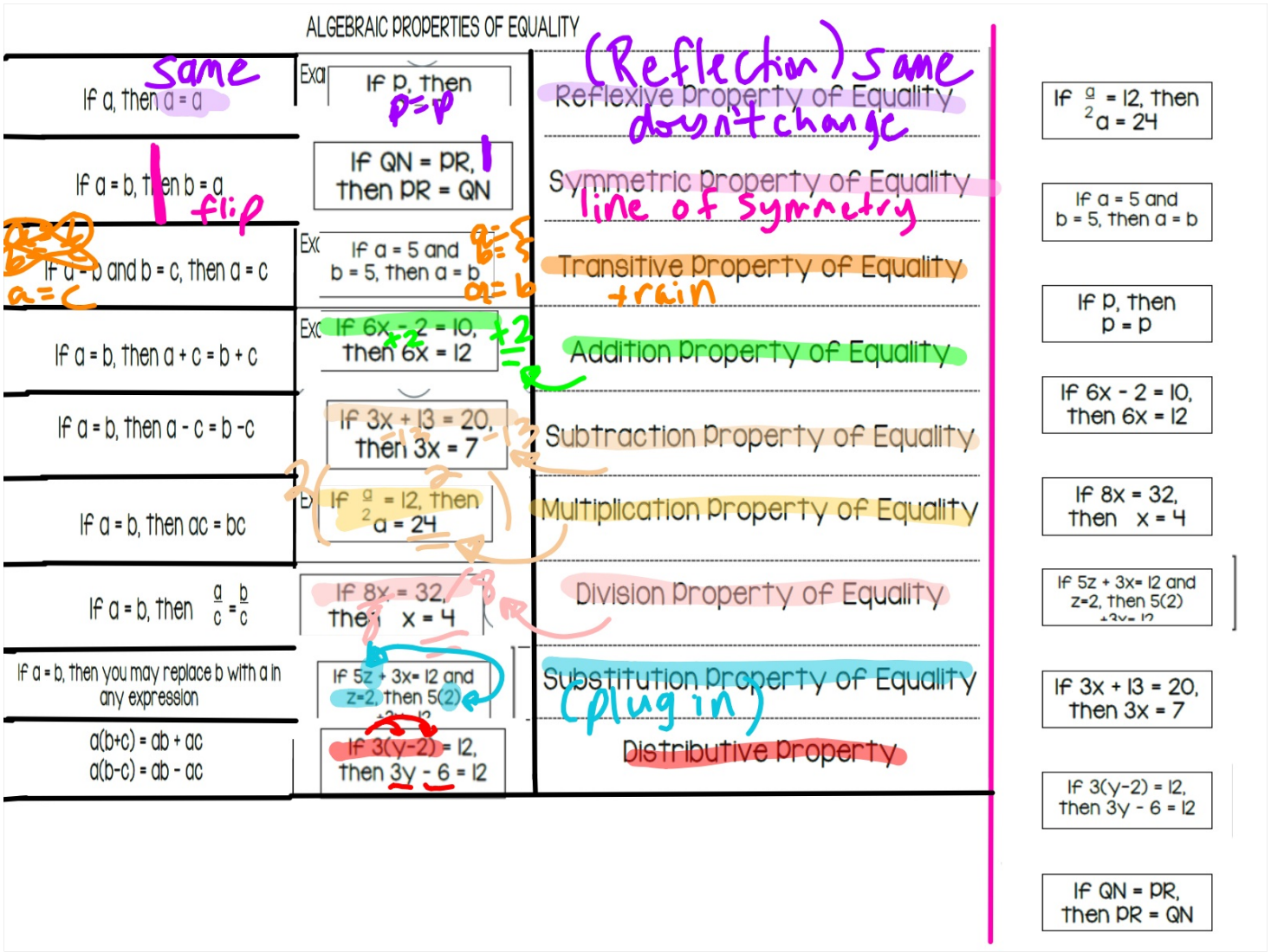

ALGEBRAIC PROPERTIES OF EQUALITY
same
Reflexion(same)
If a, then a = a
If C, then C = C
Reflexive Property of Equality
If 9x - 8 = 19, then 9x = 27
flip
symmetry
If a = b, then b = a
If KN = BR, then BR = KN
Symmetric Property of Equality
If 7x = 35, then x = 5
If a = b and b = c, then a = c
If x =2 and y= 2, then x = y
Transitive Property of Equality
train
If KN = BR, then BR = KN
If a = b, then a + c = b + c
If 9x - 8 = 19, then 9x = 27
Addition Property of Equality
If x =2 and y= 2, then x = y
If a = b, then a - c = b -c
If 2x + 5 = 12, then 2x = 7
Subtraction Property of Equality
If a = b, then ac = bc
If x/3 = 2, then x = 6
Multiplication Property of Equality
If 2(y+2) = 22, then 2y + 4 = 22
If a = b, then a/c = b/c
If 7x = 35, then x = 5
Division Property of Equality
If 3x +y=8 and y=2, then 3x + 2 = 8
If a = b, then you may replace b with a in any expression
If 3x +y=8 and y=2, then 3x + 2 = 8
Substitution Property of Equality
If C, then C = C
a(b+c) = ab + ac
a(b-c) = ab - ac
If 2(y+2) = 22, then 2y + 4 = 22
Distributive Property
If 2x + 5 = 12, then 2x = 7
If x/3 = 2, then x = 6


ALGEBRAIC PROPERTIES OF EQUALITY
If a, then a = a
Exa
If p, then p = p
Reflexive Property of Equality
If a = b, then b = a
If QN = PR, then PR = QN
Symmetric Property of Equality
If a = b and b = c, then a = c
Exc
If a = 5 and b = 5, then a = b
Transitive Property of Equality
If a = b, then a + c = b + c
Exc
If 6x - 2 = 10, then 6x = 12
Addition Property of Equality
If a = b, then a - c = b - c
If 3x + 13 = 20, then 3x = 7
Subtraction Property of Equality
If a = b, then ac = bc
If a/2 = 12, then a = 24
Multiplication Property of Equality
If a = b, then a/c = b/c
If 8x = 32, then x = 4
Division Property of Equality
If a = b, then you may replace b with a in any expression
If 5z + 3x = 12 and z=2, then 5(2) +3x = 12
Substitution Property of Equality
a(b+c) = ab + ac
a(b-c) = ab - ac
If 3(y-2) = 12, then 3y - 6 = 12
Distributive Property
If a/2 = 12, then a = 24
If a = 5 and b = 5, then a = b
If p, then p = p
If 6x - 2 = 10, then 6x = 12
If 8x = 32, then x = 4
If 5z + 3x = 12 and z=2, then 5(2) +3x = 12
If 3x + 13 = 20, then 3x = 7
If 3(y-2) = 12, then 3y - 6 = 12
If QN = PR, then PR = QN

Property	
1. Addition Property of Equality	e. If $x - 14 = 17$, then $x = 31$
2. Subtraction Property of Equality	h. If $x + 3 = 15$, then $x = 12$
3. Multiplication Property of Equality	f. If $\frac{y}{3} = 12$, then $y = 36$
4. Division Property of Equality	g. If $3x = -45$, then $x = -15$
5. Distributive Property of Equality	b. $3(a + b) = 3a + 3b$
6. Substitution Property of Equality	a. If $m\angle A = 45°$, then $3(m\angle A) = 135°$
7. Reflexive Property of Equality	c. $m\angle B = m\angle B$
8. Symmetric Property of Equality	i. If $BC = RL$, then $RL = BC$
9. Transitive Property of Equality	d. If $x = y$ and $y = z$ then $x = z$

Statement
a. If $m\angle A = 45°$, then $3(m\angle A) = 135°$
b. $3(a + b) = 3a + 3b$
c. $m\angle B = m\angle B$
d. If $x = y$ and $y = z$ then $x = z$
e. If $x - 14 = 17$, then $x = 31$
f. If $\frac{y}{3} = 12$, then $y = 36$
g. If $3x = -45$, then $x = -15$
h. If $x + 3 = 15$, then $x = 12$
i. If $BC = RL$, then $RL = BC$