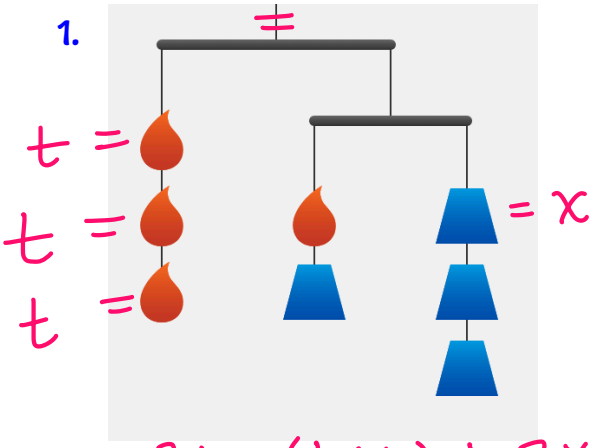
Day 5 HW

Name: Key Date: 6/24/24

Write linear equations to represent the following diagrams, using variables to represent the shapes:

1.

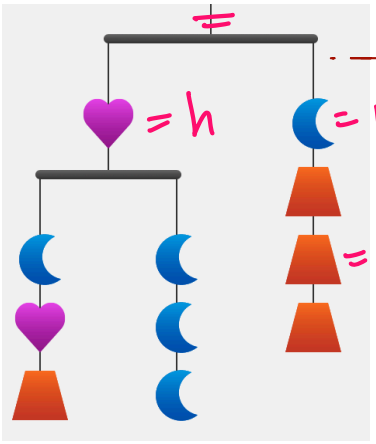


left strand: 3t

right strand(s): t + x = 3x

Equation: 3t = (t + x) + 3x

2.

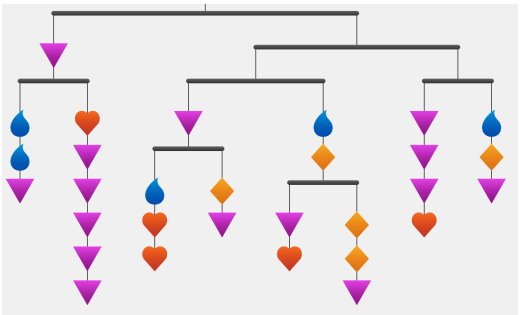


Equation: 2h + 4m + t = m + 3t

right: (m + 3t) + 4m + h + t

left: h = (m + h + t) + 3m

3. (Optional) Challenge Exercise?



Equation: _____

Day 5 Hw

Complete the following exercises.

1. Match these equation balancing steps with the description of what was done in each step.

A. Step 1:

$12x - 6 = 10$

$6x - 3 = 5$

B. Step 2:

$6x - 3 = 5$

$6x = 8$

C. Step 3:

$6x = 8$

$x = \frac{4}{3}$

1. Add 3 to both sides
2. Multiply both sides by $\frac{1}{6}$
3. Divide both sides by 2

2. Match each set of equations with the move that turned the first equation into the second.

A. $6x + 9 = 4x - 3$

$2x + 9 = -3$

B. $-4(5x - 7) = -18$

$5x - 7 = 4.5$

C. $8 - 10x = 7 + 5x$

$4 - 10x = 3 + 5x$

D. $\frac{-5x}{4} = 4$

$5x = -16$

E. $12x + 4 = 20x + 24$

$3x + 1 = 5x + 6$

1. Multiply both sides by $\frac{-1}{4}$
2. Multiply both sides by -4
3. Multiply both sides by $\frac{1}{4}$
4. Add $-4x$ to both sides
5. Add -4 to both sides

3. Elena is solving 15 - 10x = 5(x+9). What are 2 different methods she can use to solve for x in this problem?

1. $15 - 10x = 5(x+9)$

$15 - 10x = 5x + 45$ (−15)

$-10x = 5x + 30$ (−5x)

$-15x = 30 \rightarrow -\frac{x=2}{x=2}$

2. $\frac{15-10x}{5} = \frac{5(x+9)}{5}$

$3 - 2x = x + 9$ (−3)

$-2x = x + 6$ (−x)

$\frac{-3x}{-3} = \frac{6}{-3}$

$x = -2$