NAME _____

DATE _____

PERIOD _____

1. There is a local swim club where the annual membership fee is $130 and $15 each time you want to use the club. How many times can you go if you can only spend $1000 for the year?

Let $x$ = times you go

$$130 + 15x = 1000$$
$$-130 \qquad\qquad -130$$

$$\frac{15x}{15} = \frac{870}{15}$$

$$\boxed{x = 58 \text{ times}}$$

2. The Graceful Stitches knitting store made scarves for the Red Sox players' wives. They ordered 220 more spools of red yarn than blue, but needed 650 total spools of yarn. How many of each color were ordered?

Let $x$ = blue yarn

$220 + x$ = red yarn

$$x + 220 + x = 650$$

$$2x + 220 = 650$$
$$\qquad -220 \qquad -220$$

$$\frac{2x}{2} = \frac{430}{2}$$

$$x = \boxed{\begin{array}{l}215 \text{ blu} \\ 435 \text{ red}\end{array}}$$

1

3. There is a balanced scale in front of you. On one side of the scale are 256 pennies. On the other side of the scale are 56 pennies and 8 upside down cups with an equal amount of pennies under each cup. How many pennies are there under each cup. Remember that the cups don't weigh anything.

#3 Let $x$ = # of pennies under each cup

$$256 = 56 + 8x$$
$$-56 \quad -56$$

$$\frac{200}{8} = \frac{8x}{8}$$
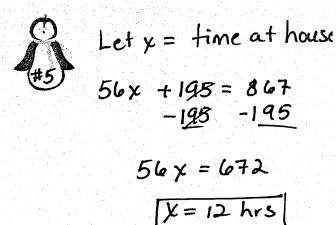
$$\boxed{x = 25 \ pennies}$$

4. The amount of snow in Philadelphia is 16 inches more than 2 times the amount in Boston. Together the two cities got 28 inches of snow. How much snow did each city get?

#4 Let $x$ = Boston sn
$16 + 2x$ = Phila

$$x + 16 + 2x = 28$$
$$3x + 16 = 28$$
$$-16 \quad -16$$
$$3x = 12$$
$$x = 4$$

$$\boxed{\begin{array}{l} Boston = 4" \\ Phila = 24" \end{array}}$$

2

**5.** Last week there was a leak on our kitchen ceiling and we had to call the plumber. He charged $56 per hour for labor plus the cost of any parts. He needed to use a lot of caulking, replaced a drain and changed some parts of the toilet. The parts cost $195 and the final bill was $867. How long was the plumber at our house?

Let $x$ = time at house

$$56x + 195 = 867$$
$$\phantom{56x }-195 \quad -195$$

$$56x = 672$$

$$\boxed{x = 12 \text{ hrs}}$$

**6.** Billy is seven years older than Alicia. The sum of their ages is 39. How old is Alicia?

Let $x$ = Alicia's age
$x + 7$ = Billy's age

$$x + x + 7 = 39$$
$$2x + 7 = 39$$
$$\phantom{2x }-7 \quad -7$$
$$2x = 32 \qquad \boxed{x = 16}$$

**7.** A triangle has a perimeter of 94". The long side is 6 more than 8 times the length of the middle side. The short side is 2 less than the middle side. Give the lengths of the 3 sides.

Long = $6 + 8x$ = 78
Short = $x - 2$ = 7
Middle = $x$ = 9

$$6 + 8x + x - 2 + x = 94$$
$$10x + 4 = 94$$
$$10x = 90$$
$$\boxed{x = 9}$$

3

**8.** Three consecutive numbers equal 135. What are the numbers?

$$\boxed{\begin{array}{c} 44 \\ 45 \\ 46 \end{array}}$$

Let $x = 1^{st}$
$x+1 = $ next ($2^{nd}$)
$x+2 = $ next ($3^{rd}$)

$$x + x + 1 + x + 2 = 135$$
$$3x + 3 = 135$$
$$\underline{-3} \quad \underline{-3}$$
$$\frac{3x}{3} = \frac{132}{3}$$
$$x = 44$$

**9.** Sixty-seven more than the number of songs on Alix's music playlist is two hundred fifty-seven. How many songs are on Alix's playlist? (by Catherine Cawley)

Let $x = $ # of songs on Alix's playlist

$$67 + x = 257$$
$$\underline{-67} \qquad \underline{-67}$$
$$\boxed{x = 190 \text{ songs}}$$

4

**10.** 18 more than 5 times a number equals -112. What is the number?

Let $y = $ a #

$$18 + 5n = -112$$
$$-18 \qquad -18$$
$$5n = 130$$

$$\boxed{n = -26}$$

**11.** You are going to buy 2 tickets to a Red Sox vs. Yankees game for Father's Day next season. The price at Yankee Stadium is $65 less than at Fenway. The less expensive tickets cost $215. How much are the higher priced tickets? (by Craig Weisenfeld)

Let $y = $ Fenway pric

$x - 65 = $ Yankees price

$$x - 65 = 215$$
$$+65 \qquad +65$$

$$y = 280$$

$$\boxed{\$280}$$

**12.** Find 4 consecutive numbers that have a sum of 102. (by Sam Marble)

Let $x = 1^{st}$

$x + 1 = 2^{nd}$

$x + 2 = 3^{rd}$

$x + 3 = 4^{th}$

$$x + x + 1 + x + 2 + x + 3 = 102$$
$$4x + 6 = 102$$
$$-6 \qquad -6$$
$$4x = 96$$
$$\boxed{x = 24}$$

5

13. Last month Mary spent $63 on groceries. This month her sister and 6 kids moved in with her and she spent $441. How many times more did she spend this month?

Let x = times more.

$$\frac{63x}{63} = \frac{441}{63}$$

x = 7 times more

14. Franny spent 3 times as long working on mini-me that Danny. Together they spent 260 minutes. How much time did they each spend on their mini-me project?

Let x = Danny's tim
3x = Franny's tim

$$x + 3x = 260$$
$$4x = 260$$
$$x = 65 \text{ mins.}$$

Danny = 65 mins.
Franny = 195 mins.

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