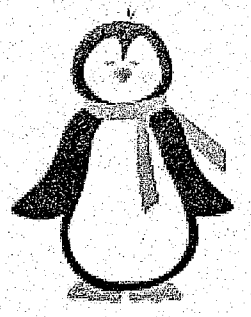

NAME _____

DATE _____

PERIOD _____

PRE-ALGEBRA ACCELERATED
TAKE HOME AND CHECK WHILE YOU WORK!!!!!!

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

$130 + 15x = 1000$

$-130 \quad -130$

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

$x = 58$ 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

$x + 220 + x = 650$

$2x + 220 = 650$

$-220 \quad -220$

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

$x =$ 215 blue, 435 red

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.**

Let x = # of pennies under each cup

$256 = 56 + 8x$

$-56 \quad -56$

$\frac{200}{8} = \frac{8x}{8}$

$x = 25$ pennies

4. **The amount of snow in Philadelphia is 16 inches more than 2/5 the amount in Boston. Together the two cities got 26 inches of snow. How much snow did each city get?**

Let x = snow in Boston

$16 + \frac{2}{5}x$ = snow in Phila

$x + 16 + \frac{2}{5}x = 26$

$1\frac{2}{5}x + 16 = 26$

$-16 \quad -16$

$1\frac{2}{5}x = 10$

$\frac{5}{7} \times \frac{7}{5}x = 10 \times \frac{5}{7}$

$x = \frac{50}{7} = 7\frac{1}{7}$

Boston = $7\frac{1}{7}$"

Phila = $26 - 7\frac{1}{7}$

$25\frac{7}{7} - 7\frac{1}{7} = 18\frac{6}{7}$

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

$56x + 195 = 867$

$-195 \quad -195$

$56x = 672$

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

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

$x + x + 7 = 39$

$2x + 7 = 39$

$-7 \quad -7$

$2x = 32$ $\boxed{x = 16}$

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 = $x = 9$

$6 + 8x + x - 2 + x = 94$

$10x + 4 = 94$

$10x = 90$

$\boxed{x = 9}$

8. **You breed Golden Retrievers. You want the average weight of the new litter to be 9 lbs. So far, you have weighed 7 out of the 8 puppies. Their weights are: 7.2 lbs, 8.3 lbs, 9 lbs, 9.5 lbs, 6 lbs, 7.8 lbs and a fat one that was 10.4 lbs. How much does the 8th Golden puppy have to weigh? (by Alix Kramer)**

Let x = weight of 8th pup

$$\frac{7.2+8.3+9+9.5+6+7.8+10.4+x}{8} =$$

$$8 \quad \frac{58.2+x}{8} = 9 \times 8$$

$$58.2 + x = 72$$
$$-58.2 \qquad -58.2$$

$x = 13.8$ lbs.

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

$$67 + x = 257$$
$$-67 \qquad -67$$

$x = 190$ songs

10. **Laverdius is the manager of the southern branch of a major boogie-board company in Miami. He receives a bonus that is 1/8 of the amount by which he exceeds the previous year's sales. This year his sales totaled $4,325,000. If this year's bonus is $325,000 what were Laverdius' sales the previous year? (by Joey Tella)**

Let x = previous year

$\frac{1}{8}(4{,}325{,}000 - x) = 325{,}0$

$540{,}625 - \frac{x}{8} = 325{,}00$

$-540{,}625 \qquad -540{,}62$

$-\frac{x}{8} = -215625$

$x = 1{,}725{,}000$

11. **You start selling "Easy" buttons that say, "That was Easy!" in 10 different languages. You invest $10,000 for supplies. Each Easy Button costs $3 and you sell them for $4. How many Easy Buttons must you sell to make a profit of $2000? (by Kira Stonkevitch)**

Let x = # Easy Buttons

Profit = Income - Expenses

$2000 = 4x - (3x + 10000)$

$2000 = 4x - 3x - 10000$

$2000 = x - 10000$

$10000 \qquad +10000$

$12000 = x$

12. **18 more than 5 times a number equals -112. What is the number?**

Let y = a #

$18 + 5n = -112$

$-18 \quad -18$

$5n = -130$

$\boxed{n = -26}$

13. **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 pri

$x - 65$ = Yankees price

$x - 65 = 215$

$+65 \quad +65$

$y = 280$

$\boxed{\$280}$

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

Let x = 1st

$x+1$ = 2nd

$x+2$ = 3rd

$x+3$ = 4th

$x + x + 1 + x + 2 + x + 3 = 102$

$4x + 6 = 102$

$-6 \quad -6$

$4x = 96$

$\boxed{x = 24}$

15. **You are a hair stylist. Each year your bonus is 1/6 of your sales from the previous year. This year your bonus was $3,250. What were your sales last year? (by Samantha Beckwith)**

Let x = last yr's sal

$6 \times \frac{1}{6} x = 3250 \times 6$

$x = \$19500$

16. **It is marshmallow-counting report card time at the marshmallow-counting factory in Brussels, Belgium and you are seriously worried about your average marshmallows-counted grade. Dr. Rouge tells you the past weeks' number of marshmallows which you counted. They are 120, 120, 140, 374 (Oh my, somebody had too much coffee!), 105 and 32 (oh my, somebody's a slacker!). How many marshmallow must you count on the last day if you found out that to get your bonus you had to have counted an average of 142? (by Joey Tella)**

Let x = count on last d

$$\frac{120+120+140+374+105+32+x}{7} = 14$$

$$\frac{891+x}{7} = 142 \times 7$$

$$891 + x = 994$$

$$-891 \quad -891$$

$$x = 103$$