Arithmetic HW

13. Arthur is a 35 year old man who is moderately active, weighs 150 pounds, and is 5' 8" tall. What is his BMR?

14. Brianna is a 23-year-old very active woman who weighs 130 pounds and is 5' 1" tall. What is her BMR?

15. Caroline is an 80 year old woman, not physically active, who weighs 120 pounds and is 5' 3" tall. What is her BMR?

$$\text{BMI} = \text{weight} \div \text{height}^2 \times 703$$

$$\text{Women} = (1.2 \times \text{BMI}) + (0.23 \times \text{age}) - 5.4$$
$$\text{Men} = (1.2 \times \text{BMI}) + (0.23 \times \text{age}) + 5.4$$

22. What is Arthur's estimated percent body fat?

23. What is Brianna's estimated percent body fat?

24. What is Caroline's estimated percent body fat?

$$\text{BMI} = 150 \text{ lbs} \div (68 \text{ in})^2 \cdot 703$$
$$= \boxed{22.8}$$

$$\%\ \text{Body Fat} = 1.2 \cdot 22.8 + 0.23 \cdot 35 + 5.4$$
$$\approx \boxed{41}$$

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$$\text{Women} = (1.2 \times \text{BMI}) + (0.23 \times \text{age}) - 5.4$$
$$\text{Men} = (1.2 \times \text{BMI}) + (0.23 \times \text{age}) + 5.4$$

22. What is Arthur's estimated percent body fat?
23. What is Brianna's estimated percent body fat?
24. What is Caroline's estimated percent body fat?

$$\text{BMI} = 120 \text{ lbs} \div (63 \text{ in})^2 \cdot 703$$
$$= \boxed{21.3}$$

$$\%\ \text{Body Fat} = 1.2 \cdot 21.3 + 0.23 \cdot 80 - 5.4$$
$$\approx \boxed{39}$$

Arithmetic Practice Test

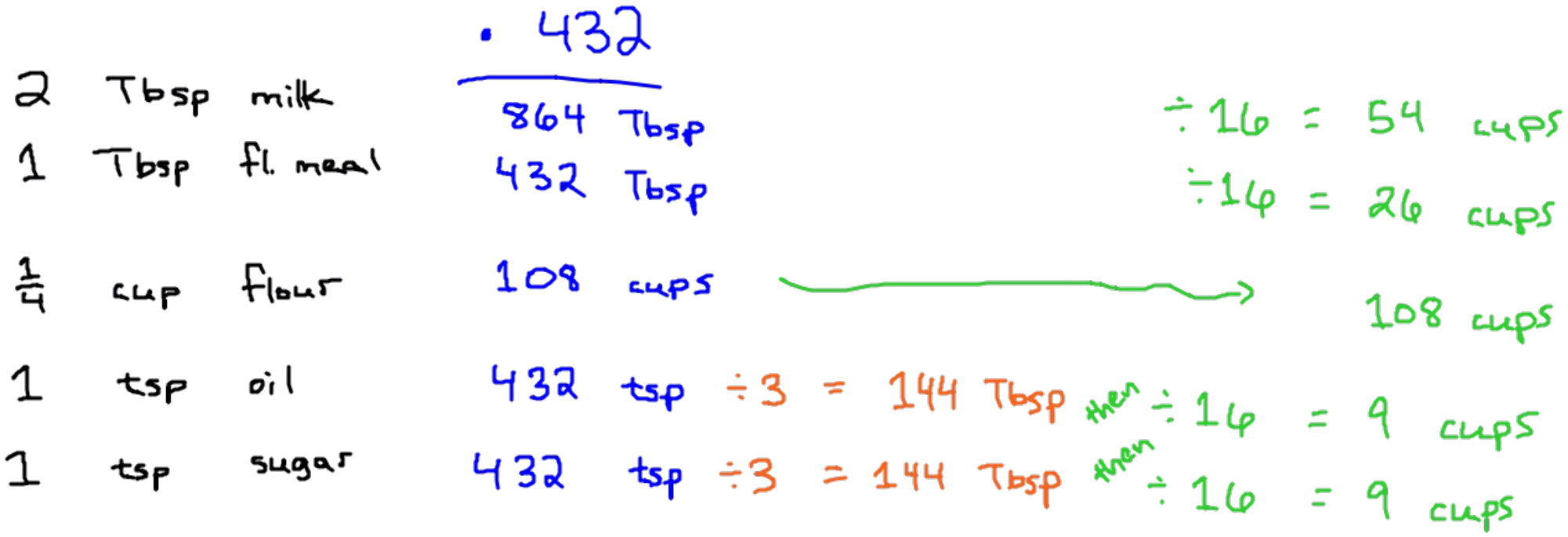
159 lbs 68 min

12. Continuing the previous probem, that same friend walks for 1 hour and 8 minutes. Walking burns 0.037 calories per pound per minute. How many calories does your friend burn? To how many 165-calorie *York Peppermint Pattie* candies is this equivalent?

$$159 \text{ lbs} \cdot 68 \text{ min} \cdot 0.037 \frac{\text{cal}}{\text{lb} \cdot \text{min}} \approx \boxed{400 \text{ cal}}$$

$$400 \div 165 \approx \boxed{2.4 \text{ candies}}$$

16. Scale up this simple but yummy single-serving cracker recipe to make 432 servings.



- 864 Tbsp milk
- 432 Tbsp flaxseed meal
- 108 cups flour
- 432 tsp olive oil
- 432 tsp sugar
- salt

There are 3 teaspoons in one Tablespoon. Rounding to the nearest Tablespoon as we adjust the olive oil and sugar, this gives us:

- 864 Tbsp milk
- 432 Tbsp flaxseed meal
- 108 cups flour
- 144 Tbsp olive oil
- 144 Tbsp sugar
- salt

There are 4 Tablespoons in $\frac{1}{4}$ cup. Rounding to the nearest quarter-cup, this gives us:

- 216 quarter-cups milk
- 108 quarter-cups flaxseed meal
- 36 quarter-cups olive oil
- 36 quarter-cups sugar

- 864 Tbsp milk
- 432 Tbsp flaxseed meal
- 108 cups flour
- 432 tsp olive oil
- 432 tsp sugar
- salt

There are 3 teaspoons in one Tablespoon. Rounding to the nearest Tablespoon as we adjust the olive oil and sugar, this gives us:

- 864 Tbsp milk
- 432 Tbsp flaxseed meal
- 108 cups flour
- 144 Tbsp olive oil
- 144 Tbsp sugar
- salt

There are 4 Tablespoons in $\frac{1}{4}$ cup. Rounding to the nearest quarter-cup, this gives us:

so 16 Tbsp = 1 cup

- 216 quarter-cups milk
- 108 quarter-cups flaxseed meal
- 36 quarter-cups olive oil
- 36 quarter-cups sugar

9. One serving of hamburger has 20 grams of fat, 38 grams of carbohydrates (including 9 from sugar), and 22 grams of protein. Change to calories these amounts of fat, carbohydrate, sugar, and protein.

fat $20 \cdot 9 = 180$ cal

carbs $38 \cdot 4 = 152$ cal

↑ in here

(sugar) $9 \cdot 4 = 36$ cal

protein $22 \cdot 4 = 88$ cal

10. Continuing the previous probem, what percentage of the food's calories come from protein?

$$\% = \frac{88}{\text{part}} \div \frac{(180 + 152 + 88)}{\text{whole}} \approx 0.21$$

RIP LOP

$$= 21\%$$