

1. Perform the following operations.

a) $2^3 + 4 - 12 \div 6 =$

b) $\frac{(24 - 8) \div 2 + 3 \times 4}{(5 - 3^2) \times (2 + 3)} =$

c) $(5^2 - 2 \times (9 - 5)) \times (4 + 2 \times 5) =$

d) Simplify: $2b - 5x + 3 - 9b - 15 - 12x$

2. Perform the following operations.

a) $x + 5 = 3x - 7$

b) $\frac{3}{8}(4x + 2) = 3x + 3$

c) $2,5x - 10,8 = 4,2 - 5x$

3. Solve the equations.

a) $\frac{10}{5} = \frac{8}{x}$

b) $\frac{9}{36} = \frac{x-1}{2x}$

4. Solve the following proportions.

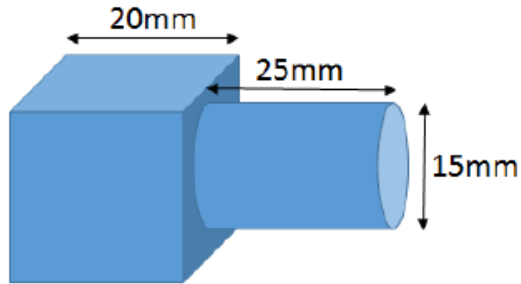
a) 7 grams of popcorn have 35 calories. How many calories are there in 99 grams of popcorn?

b) A plumber charges 68 dollars per hour. How much will you have to pay him if he works for 3 hours?

5. Solve the following proportions.

PROBLEM 1

A shop has to produce 200 pieces of aluminum for the solid (full) illustrated below. Calculate how much aluminum is needed as well as the total cost, if one gram of aluminum is \$2.37.

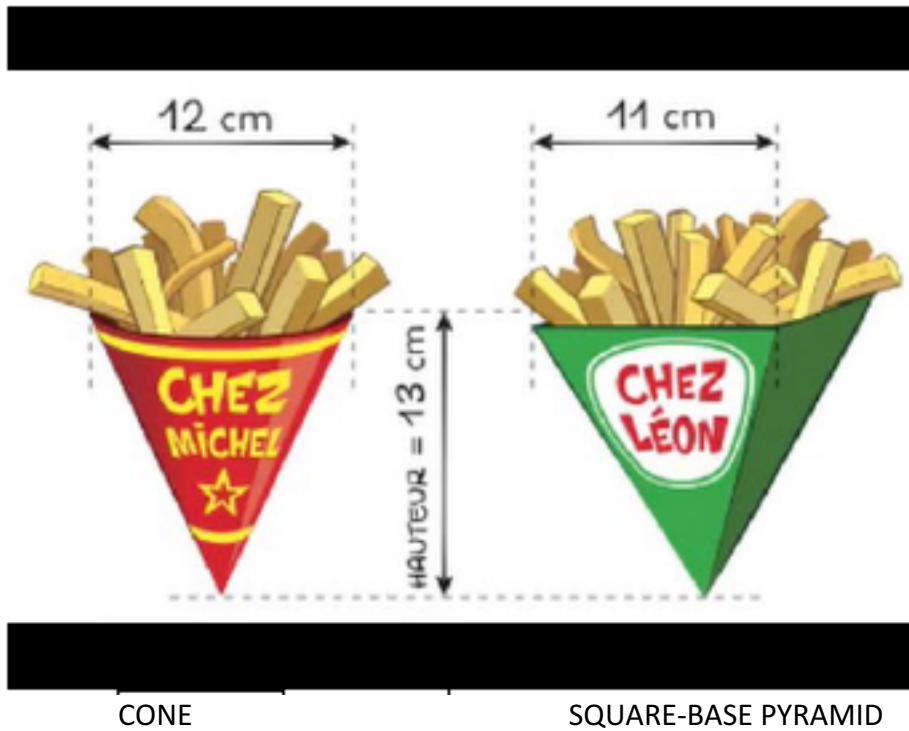


$$1\text{m}^3 = 2700\text{Kg}$$

Calculations

PROBLEM 2

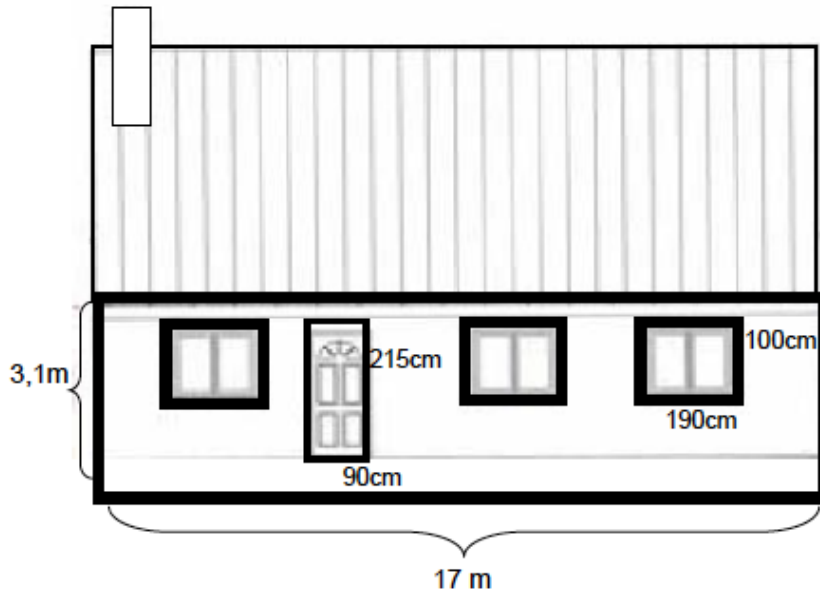
Which is the better deal? Fries at Chez Michel or fries at Chez Léon?

Calculations

PROBLEM 3

You want to improve the front of your cottage by applying new bricks that measure 35 cm by 15 cm. Below are the plans.

How many palettes of bricks will you need if each palette has 90 bricks?

Calculations

6. Solve the following.

a) $F = ma$

où $F = 15$ et $m = 3$ $a = ?$

b) $A_l = 2\pi rh$

où $\pi = 3.1416$ $r = 5\text{cm}$ et $h = 4\text{cm}$ $A_l = ?$

c) $A = c^2$

$A = 1244 \text{ m}^2$ $c = ?$

TASK 1

Which **algebraic model** would help you calculate Max's weekly salary. He is a sunglass salesman who earns \$9 per hour and makes a \$25 commission on each of his sales?

a) What is Max's weekly salary if he worked 40 hours and made 13 sales this week?

b) How many hours did Max work if his weekly salary is \$ 1,333 and he made 40 sales?

TASK 2: (following Task 1)

Max would like to purchase a travel package that costs \$1,790. He works 30 hours per week and his expenses \$100 per week. He anticipates making between 2 and 4 sunglass sales per week.

Can he take the trip in 4 weeks? _____

If not, in how many weeks will he be able to take the trip? _____

Using the information from TASK 1, **adjust your algebraic model** to factor in Max's expenses and solve the problem.

Calculations