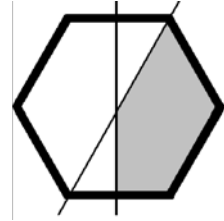


Name: .....

Class/Group: .....

**Part I**

1. The figure shows a regular hexagon. Each of the two lines divides the hexagon into halves. What fraction of the hexagon is shaded? Answer in fraction form.



Answer: \_\_\_\_\_ (1/0/0)

2. Find the value of  $25 - 3x$  if  $x = -2$

Answer: \_\_\_\_\_ (1/0/0)

3. It is given that  $29.2 \cdot 1.3 = 37.96$   
Calculate  $2.92 \cdot 13$

Answer: \_\_\_\_\_ (1/0/0)

- 4.



A



B



C



D

Study the traffic signs and fill in the table.

- Take into consideration the outer shape, the text, colour and content.  
How many lines of symmetry does each sign have?

	Sign A	Sign B	Sign C	Sign D
Number of lines of symmetry:				

- Take into consideration only the outer shape of the signs.  
How many lines of symmetry does each shape have?

	Form A	Form B	Form C	Form D
Number of lines of symmetry:				

(1/1/1)

5. Adam buys a used moped.  
The formula  $y = 10000 \cdot 0.8^x$  describes  
the value of moped  $y$  kronor  $x$  years later.  
Find the yearly percentage decrease in value.

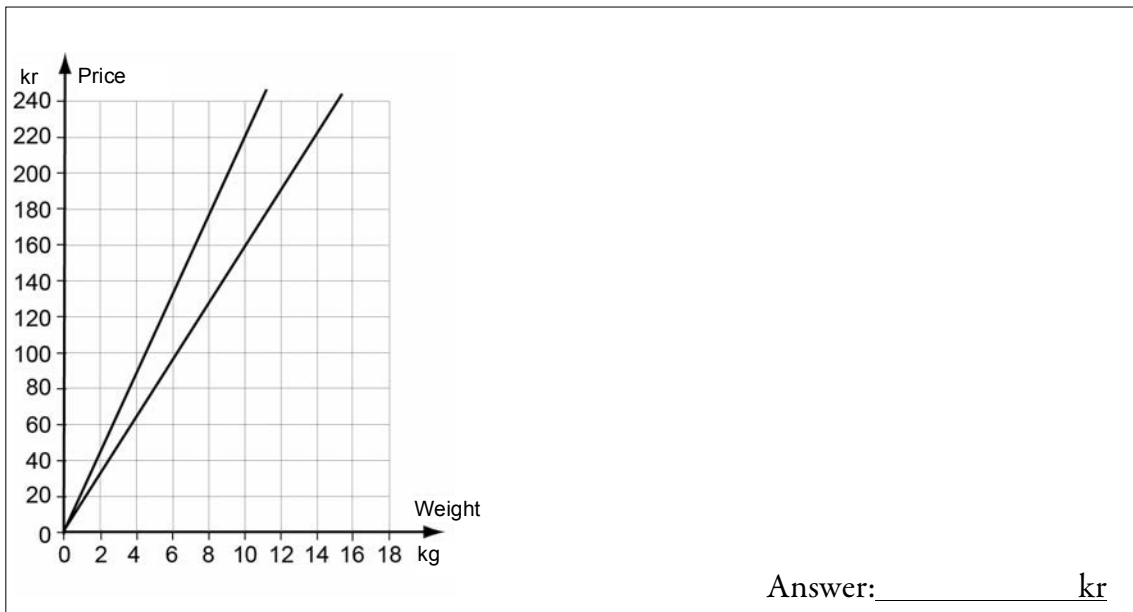
Answer: \_\_\_\_\_ % per year (2/0/0)

6. What number must be in the box in order  
for the equality to hold?

$$\frac{2}{3} + \boxed{\phantom{00}} + \frac{1}{9} = 1$$

Answer: \_\_\_\_\_ (1/0/0)

7. The diagram shows how the price depends on the weight for  
two different kinds of apples.  
Find the difference in price per kilogram.  
Explain your answer in the figure and the box.



8. Solve the equation  $9x + 10^2 = 10^3$

Answer:  $x =$  \_\_\_\_\_ (0/1/0)

9. If Hanna earned 2 000 kr more per month,  
her monthly wage would be one and a half times  
as much as Nora's.  
Write an expression for Hanna's monthly wage  
if Nora's monthly wage is  $x$  kr.

Answer: \_\_\_\_\_ (0/1/0)

10.  $x + y = a$  and  $x - y = b$

Write an expression for  $a - b$  and simplify it.

Answer: \_\_\_\_\_

(1/1/0)

11. If  $x \geq 2$  and  $y \geq -3$ , what is the least possible value that the expression  $2x + y^2$  can have?

Answer: \_\_\_\_\_

(0/0/2)

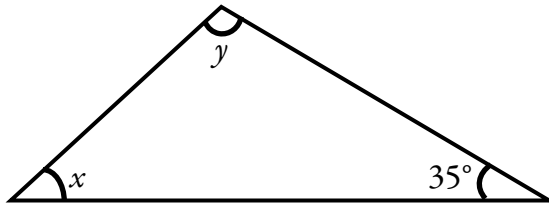
12. Circle the correct alternative. Explain your reasoning in the box below.

The value of  $2x + 3$  is  the value of  $x + 2$

- always less than     always equal to     always greater than     for some x-values greater than

(0/1/1)

13. In a triangle, the angles are given as shown.



a) Write  $y$  as a function of  $x$ .

Answer: \_\_\_\_\_ (0/1/0)

b) Find the range for the function.

Answer: \_\_\_\_\_ (0/0/2)