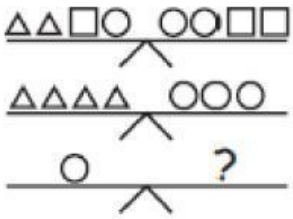
Shape balance

I. LEVEL 1

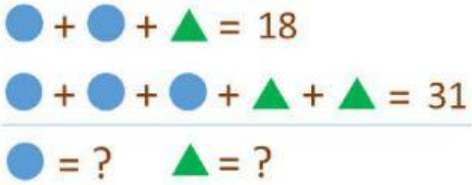
What number should be the replacement for the question mark?

A



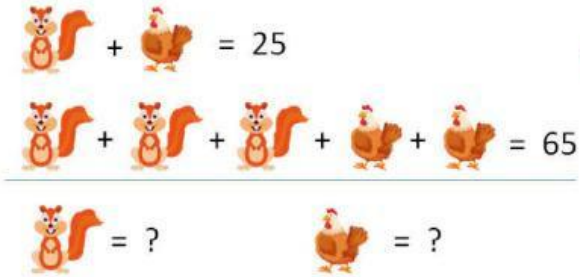
Answer: _____

B



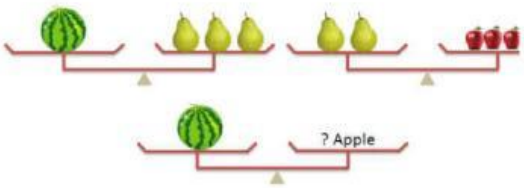
Answer: _____

C



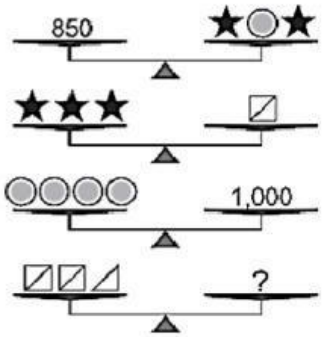
Answer: _____

D

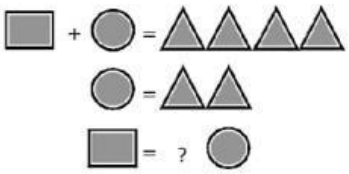


Answer: _____

E



F



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Answer: _____ **Answer:** _____

II. LEVEL 2

Problem 1:

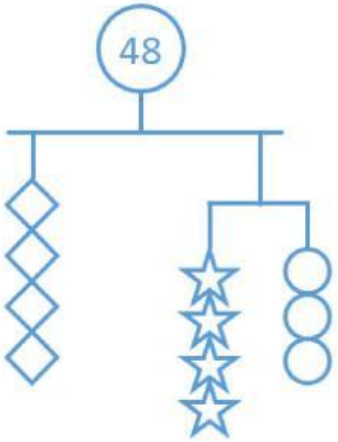
□□□□□□ + ☆☆☆☆ = 50
□ + ☆ = 11

What is the value represented by □ ?

(A) 3 (B) 4 (C) (D) 6 (E) 8

Answer: _____

Problem 2: Find the value of each shape



Answer: _____

Problem 3: In the diagram, two equal-armed balances are shown.

How many ◯ould it take to balance □□□□

(A) 2 (B) 1 (C) 4 (D) 5 (E) 3

Answer: _____

Problem 4: In the diagram, each scale shows the total mass (weight) of the shapes on that scale.

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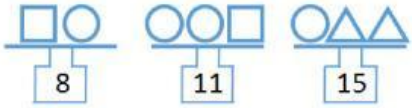
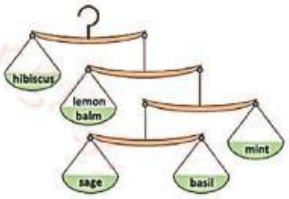
What is the mass (weight) of a ? △



(A) 3 (B) 5 (C) 12 (D) 6 (E) 5.5

Answer: _____

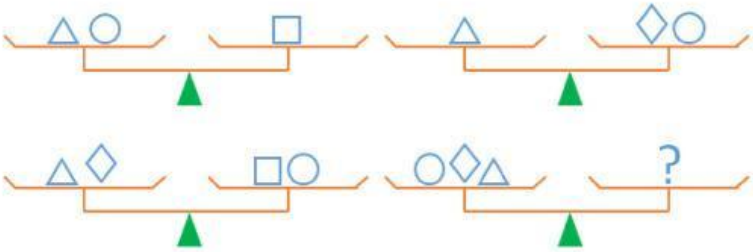
Problem 5: To cook an elixir a witch needs five types of herbs exactly in the amounts weighed by the scales in the picture. The witch knows that she needs to put 5 grams of sage into the elixir. How manr grams of hibiscus does she have to use ? (The weight of the scales is irrelevant.)



(A) 50g (B) 40g (C) 30g (D) 20g (E) 10g

Answer: _____

Problem 6:



All four scales shown are balanced. One possible replacement for the ? is

(A) △□ (B) ◇△ (C) ○□

(D) □◇ (E) △○

Answer: _____

Problem 7:

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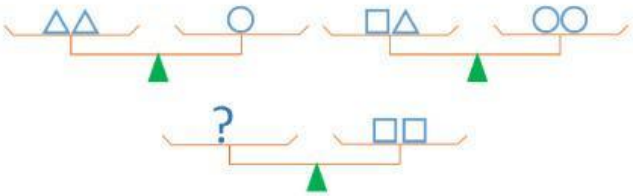


All three scales shown are balanced. One possible replacement for the ? is

(A) ○△ **(B)** ○△△ **(C)** ○○△

(D) ○○△△ **(E)** ○○○△

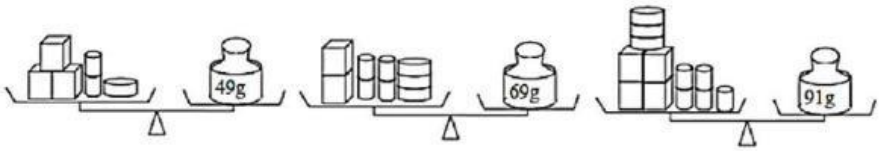
III. LEVEL 3

Problem 1: In the diagram, two equal-armed balances are shown. How many □ would it take to balance one ○ ?

(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

Answer: _____

Problem 2: The three weighing scales are balanced as shown. What is the sum weight of the these 3D shapes in grams ?



(A) 20 (B) 22 (C) 27 (D) 31

Answer: _____

Problem 3: How many are equivalent to thr weight of one ?

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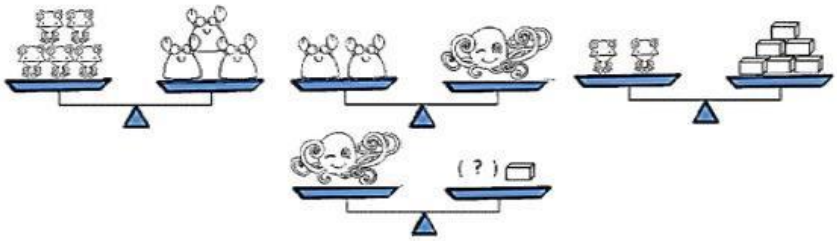
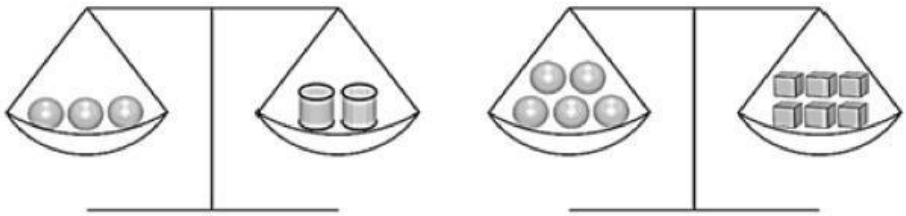


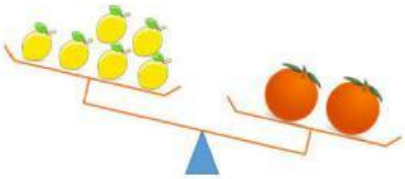
Answer: _____

Problem 4: There are three kinds of objects, cylinders and cubes. Three spheres have the same total weight as two cylinders, and five spheres have the same total weight as six cubes. How many cubes will have the same total weight as five cylinders ?



Answer: _____

Problem 5: On one of the plates of a balance there are 6 oranges and on the other there are melons. When we put a melon exactly like the others on the orange plate, the balance is equilibrated.



A. the same as 2 oranges B. the same as 3 oranges

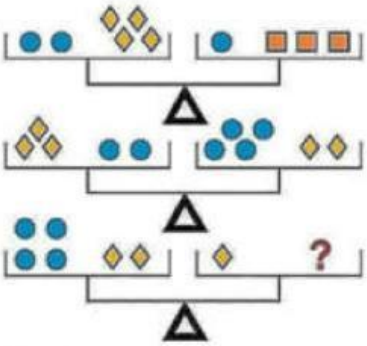
C. the same as 4 oranges D. the same as 5 oranges

E. the same as 6 oranges

Answer: _____

LIVEWORKSHEETS

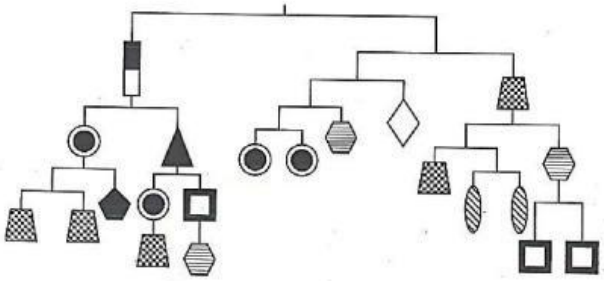
Problem 6: How many possible combinations of given shapes are there for the question mark?



Answer: _____

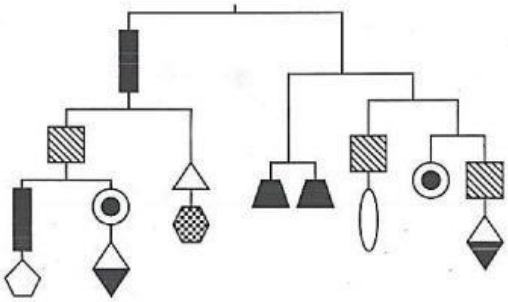
IV. LEVEL 4

Problem 1: Find the value of each shape if the total weight is 160 g



Answer: _____

Problem 2: Find the value of each shape if the total weight is 80 g and the square is 1 g heavier than the diamond, the triangle is lighter than the hexagon.



Answer: _____

Problem 3:

Find the value of each shape if the total weight is 48 g. The circle is heavier than the rectangle and the total weight of the circle and the hexagon is lighter than the pentagon's.

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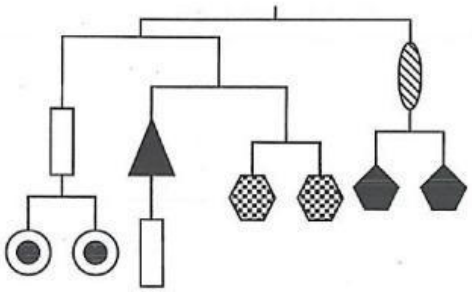
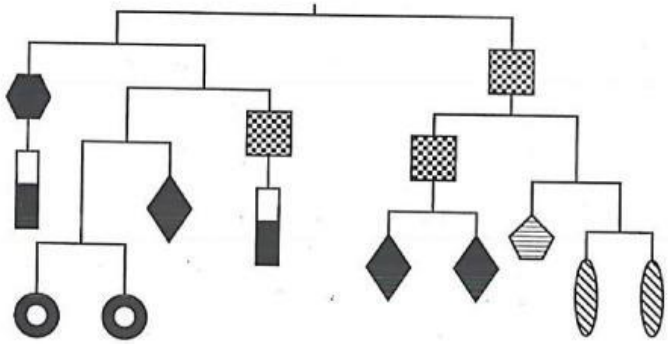


Answer: _____

Problem 4:

Find the value of each shape if the total weight is 96 g.



Answer: _____

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