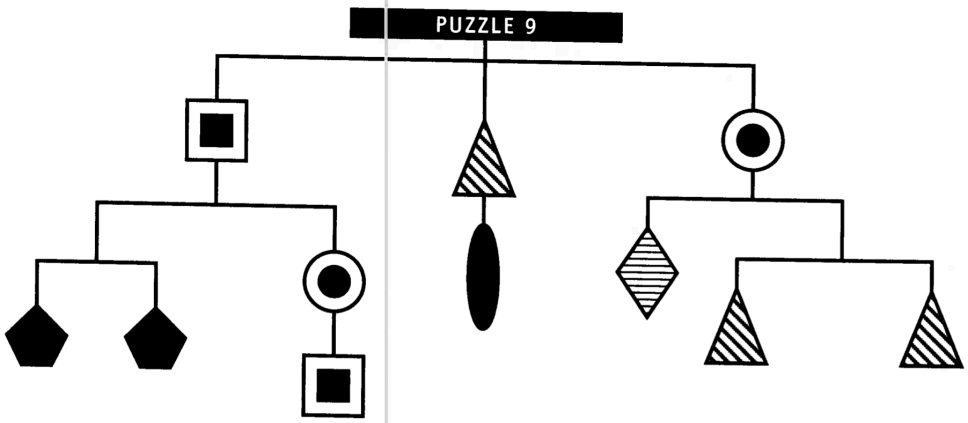
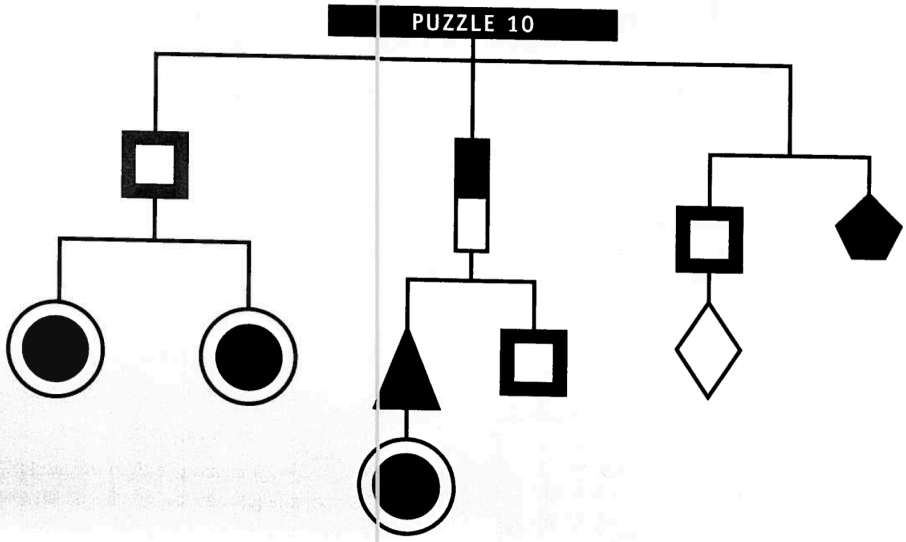
PUZZLE 9



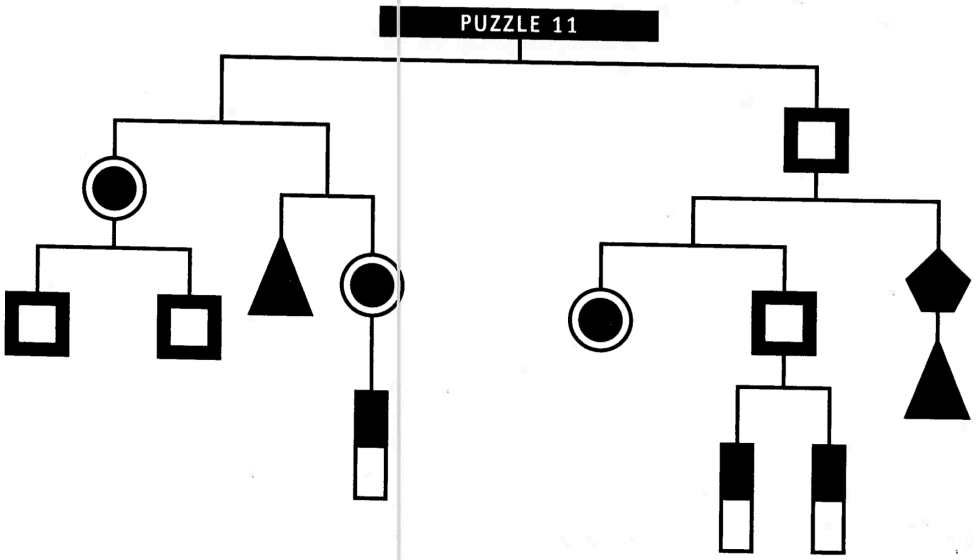
Discover the value of each of the shapes. The total weight is 129. Each of the arms is equal in weight. Additional clue:

PUZZLE 10



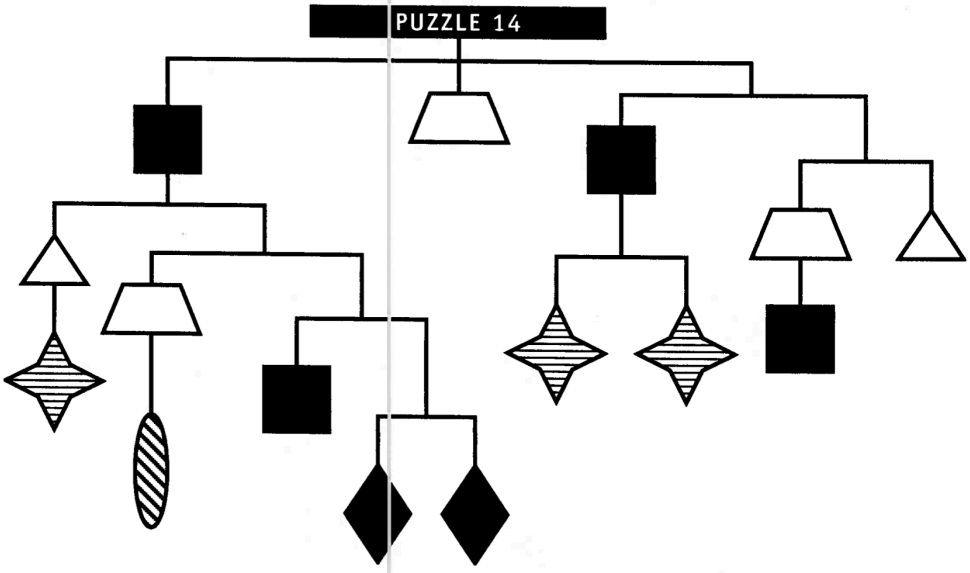
Discover the value of each of the shapes. The total weight is 54. The three arms are equal in weight.

PUZZLE 11



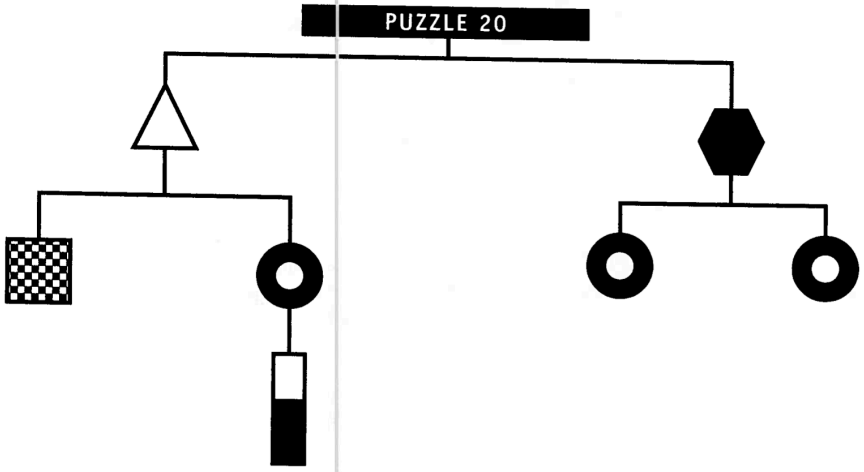
Discover the value of each of the shapes.
The total weight is 56.

PUZZLE 14



Discover the value of each of the shapes.
The total weight is 77.

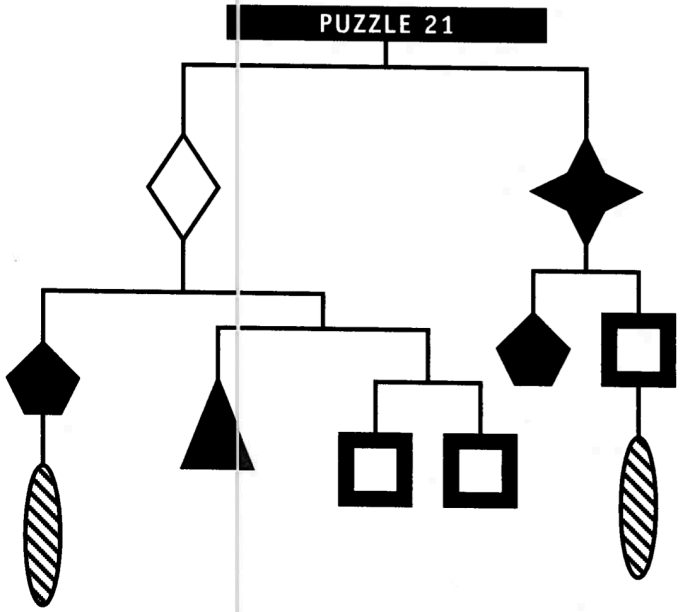
PUZZLE 20



Discover the value of each of the shapes.
The total weight is 30. Clues:

3 < ⬢ △ − = ▮

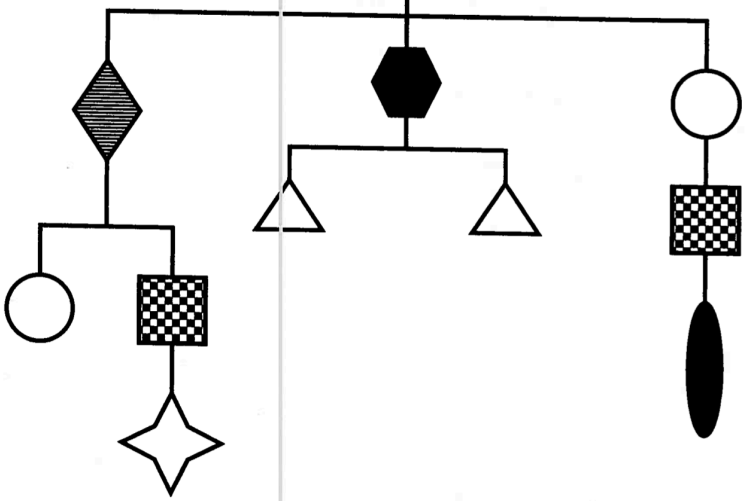
PUZZLE 21



Discover the value of each of the shapes.
The total weight is 62. Clue:

◇ − ■ **is a prime number.**

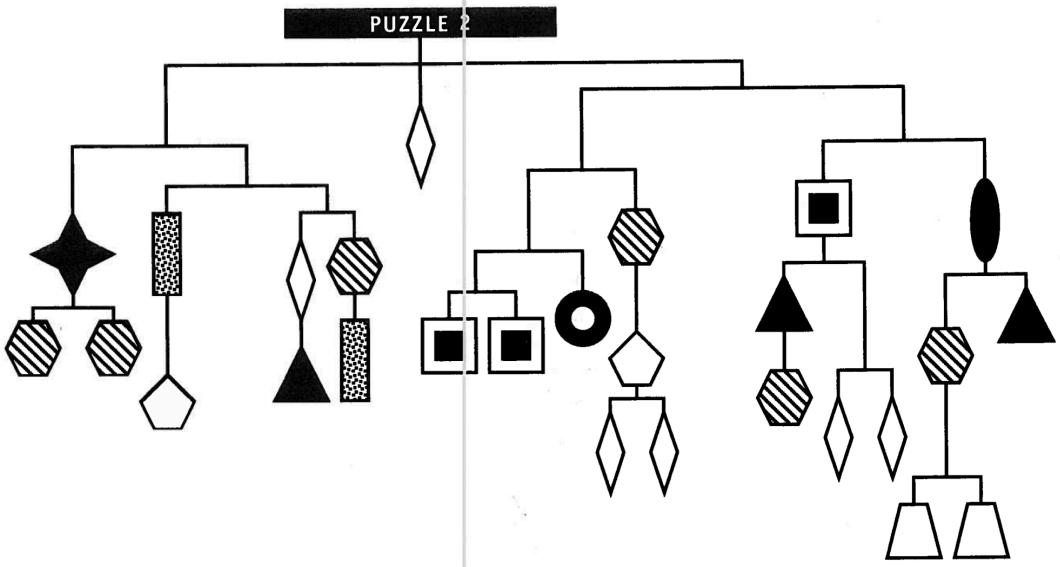
PUZZLE 24



Discover the value of each of the shapes. The total weight is 51. Each of the three arms is equal in weight. Additional clues:

◇ ○ ⊠ **have consecutively numbered values.** ✧ > △

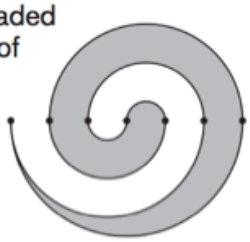
PUZZLE 2



Discover the value of each shape. The total weight is 131. Only one shape is greater than eleven. Additional clues:

◇ + ◇ = ⬮ 3 x ⏢ = ⬮

In the figure the collinear dots are equally spaced 2 units apart, and the shaded region is formed from two semicircles of diameter 2 units, two semicircles of diameter 6 units, two semicircles of diameter 10 units and one semicircle of diameter 12 units. What is the area of this shaded region? Express your answer in terms of π.

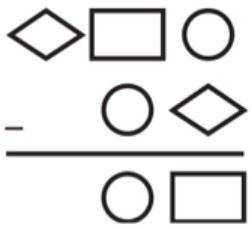


1

Ellie and Emma live 1.04 miles from each other. They decide to meet by walking toward each other, Ellie at 2.4 mi/h and Emma at 2.8 mi/h. If they both leave at 8:00 a.m., at what time in the morning will they meet?

Given the following facts about the numbers a, b, c and d, what is the value of $a + b$? Express your answer as a mixed number.

$ab = 1$
$bc = -9$
$b + c + d = 0$
$b = -c$
$c < -a$



In the subtraction problem shown, the shapes ◇, □ and ○ each represent a different digit. What is the value of □ ◇ ÷ ○?

In the addition problem shown, each letter stands for a different digit. If T = 3, what is the value of the four-digit number MATH?

$$\begin{array}{cccc} & G & E & T \\ + & T & H & E \\ \hline M & A & T & H \end{array}$$