

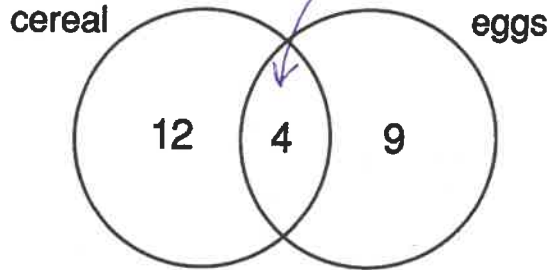
What Did the Hiker Say As He Removed His Backpack?

Do each exercise and find your answer at the bottom of the page.
Write the letter of the exercise in the box containing the answer.

A teacher asked students in her class what they had eaten for breakfast.
According to the Venn diagram, how many students had eaten:

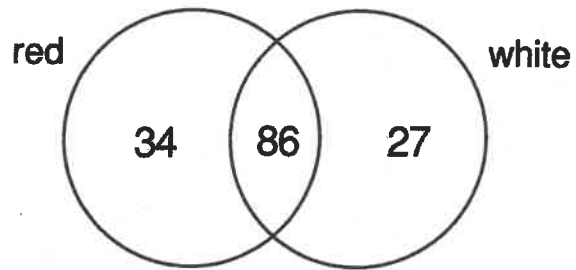
EAT BOTH CEREAL AND EGGS

- (F) cereal? *16*
- (A) cereal but not eggs? *12*
- (Y) eggs? *13*
- (H) eggs but not cereal? *9*
- (I) both eggs and cereal? *4*



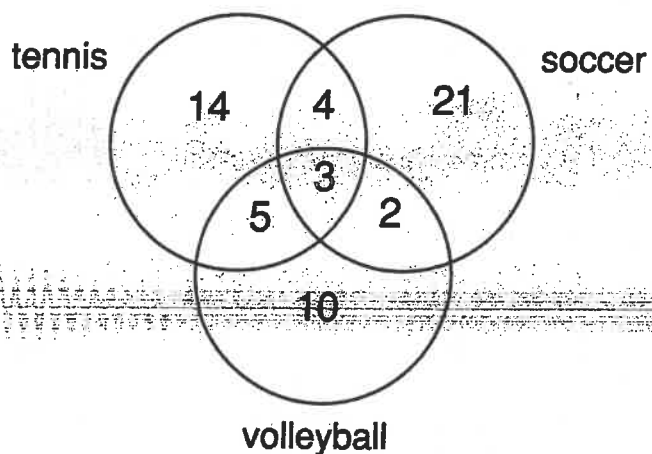
A geography class made a study of the colors used in national flags.
According to the Venn diagram, how many flags contain:

- (L) red?
- (T) red but not white?
- (E) white?
- (A) white but not red?
- (S) both red and white?



A survey was taken to find how many students play certain sports.
According to the Venn diagram, how many students play:

- (O) tennis?
- (S) tennis but not soccer or volleyball?
- (T) soccer?
- (D) soccer but not tennis or volleyball?
- (M) volleyball?
- (A) volleyball but not tennis or soccer?
- (F) both tennis and soccer?
- (N) both tennis and volleyball?
- (C) both soccer and volleyball?
- (P) all three sports?



| | | | | | | | | | | | | | | | | | | | |
|----|----------|----|----|----|----------|-----|---|----|----|----|---|----------|----|----------|----|---|---|----------|-----|
| 30 | 9 | 10 | 34 | 14 | 12 | 120 | 5 | 27 | 21 | 26 | 7 | 16 | 20 | 13 | 86 | 3 | 4 | 8 | 113 |
| | <i>H</i> | | | | <i>A</i> | | | | | | | <i>F</i> | | <i>Y</i> | | | | <i>I</i> | |

What Did the Mechanical Man Do When He Ran Out of Money at a Poker Game?

Solve each problem below. Find your solution and notice the two letters next to it. Write these letters in the two boxes above the exercise number at the bottom of the page.



- ① In the Land of Pi, there are six cities arranged in a circle. Each city is connected to every other city by a straight road. How many roads are there?
- ② Tom made a New Year's resolution to stop spending all his money. He has a plan. During January, he will save \$1. During February, he will save \$3. During March, he will save \$5. During April, he will save \$7. If he continues to follow this plan, how much money will he save altogether in one year?
- ③ At a math contest, 12 problems were given. Five points were awarded for each correct answer, and two points were deducted for each incorrect answer. Matt's score was 39. How many correct answers did he have?
- ④ In the mythical kingdom of Permutatus, wizards have special 2-digit license plates. The first digit is greater than 6, and the second digit is odd. The two digits cannot be the same. How many different license plates are possible?
- ⑤ Today is the teacher's birthday. The teacher said: "If you multiply my age by 3, then subtract 20, the result is 100." How old is the teacher?
- ⑥ Tex is building a corral in the shape of a rectangle 40 feet long and 32 feet wide. He plans to put a fencepost every 8 feet around the corral. How many posts will he need?
- ⑦ Samantha has five objects, weighing 1 kg, 2 kg, 3 kg, 4 kg, and 5 kg. If she weighs them two at a time, how many *different* weights can she get?
- ⑧ The science club wants to charter a bus to the Space Museum. The Red Line charges \$50 for the first hour plus \$30 for each additional hour. The Blue Line charges \$100 for the first hour plus \$20 for each additional hour. What is the smallest number of hours for which the two lines would charge the same amount?

| | |
|----|-------|
| SL | \$136 |
| TA | 4 |
| IS | 13 |
| PU | 36 |
| WI | 15 |
| AS | 21 |
| RE | 7 |
| IN | \$180 |
| TH | 9 |
| HE | 40 |
| HA | 6 |
| GO | 8 |
| ND | \$144 |
| NH | 18 |
| RI | 11 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|--|--|--|--|
| | | | | | | | | | | | |
| 5 | 3 | 7 | 1 | 6 | 4 | 8 | 2 | | | | |