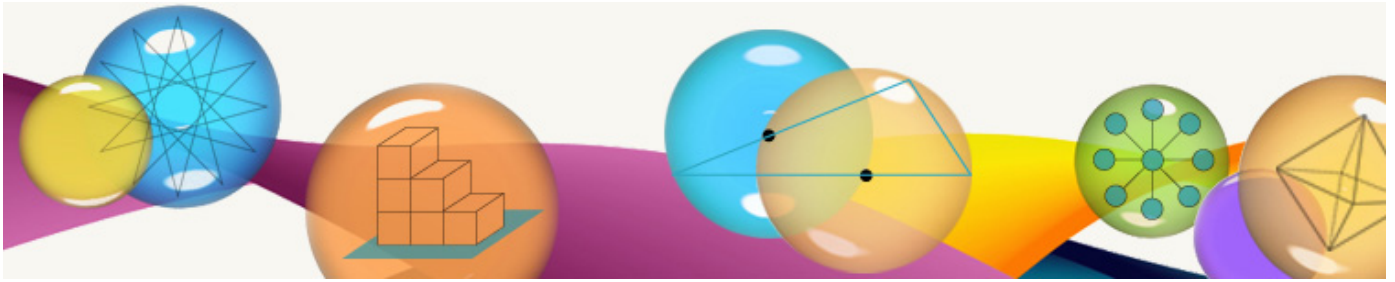


# Problem of the Week



## Problem B (Formerly Grade 5/6) How Many Combinations?

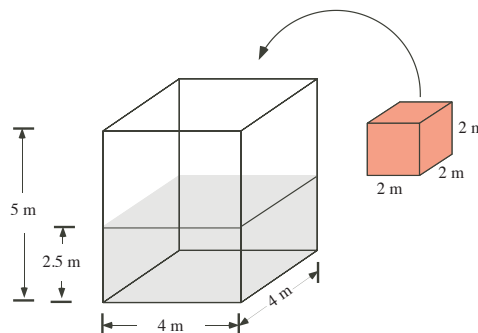
Laura's class has taken a test with 30 multiple-choice questions. The marking scheme is as follows:

- a correct answer is awarded 5 points;
- for every incorrect answer, you lose 2 points;
- an unanswered question gets 0 points.

Laura received a total of 98 points. Determine the number of different ways Laura could have answered the questions in order to achieve her score.

## Problem C (Formerly Grade 7/8) Reach For The Top

A rectangular storage tank has a square base with sides of length 4 m and height of 5 m. The tank is filled with water to a height of 2.5 m. A solid cube with sides 2 m is then thrown into the tank. Does the water level reach the top of the tank? If not, how far below the top of the tank does the water reach?

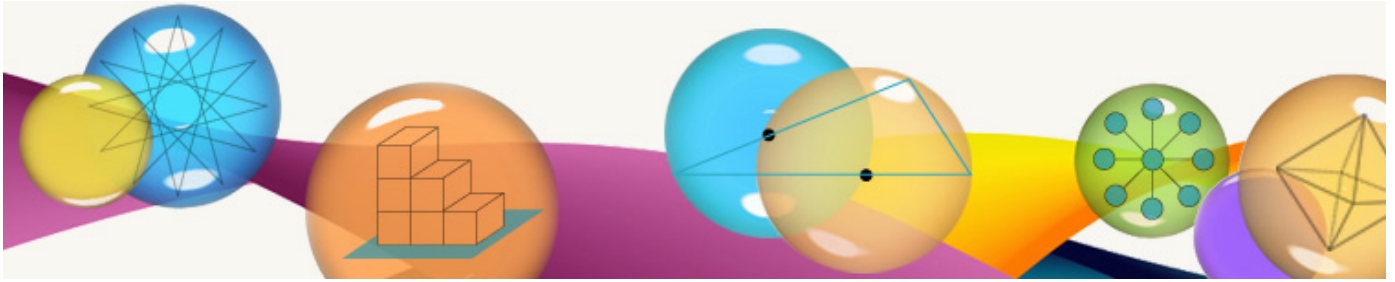


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# Problem of the Week



## Problem B (Formerly Grade 5/6) Mmmm! Chocolate...

At Jen and Berry's Public School, four of every ten people prefer chocolate ice cream, and the rest prefer vanilla ice cream.

- If 350 people plan to attend a school barbecue, how many will eat chocolate ice cream?
- If each person will eat 250 grams of ice cream, how much chocolate ice cream should be purchased?



## Problem C (Formerly Grade 7/8) The Search is On

The digits 1, 2, 3, 4, and 5 are each used exactly once to create a five digit number  $abcde$  which satisfies the following two conditions:

- the two digit number  $ab$  is divisible by 4; and
- the two digit number  $cd$  is divisible by 3.

Find all five digit numbers, formed using each of the digits 1 to 5 exactly once, that satisfy both conditions.

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