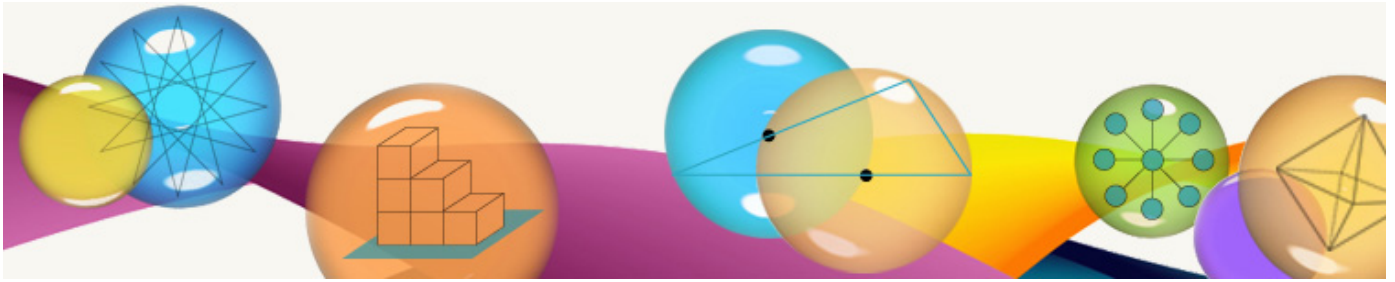


# Problem of the Week



## Problem D (Formerly Grade 9/10) The Storms Are Coming

Gail and Dusty Storm went cycling on their own from the same place at 1:15 p.m. Gail Storm travelled north at 24 km/h while Dusty Storm travelled east at 32 km/h. Determine the time when Gail and Dusty will be 130 km apart and how far each of them will have travelled.

## Problem E (Formerly Grade 11/12) A Product For The Ages

A mother has four children, each with a different age. The product of their ages is 17 280. The sum of the ages of the three oldest children is 40 and the sum of the ages of the three youngest children is 32.

Determine the ages of the four children.

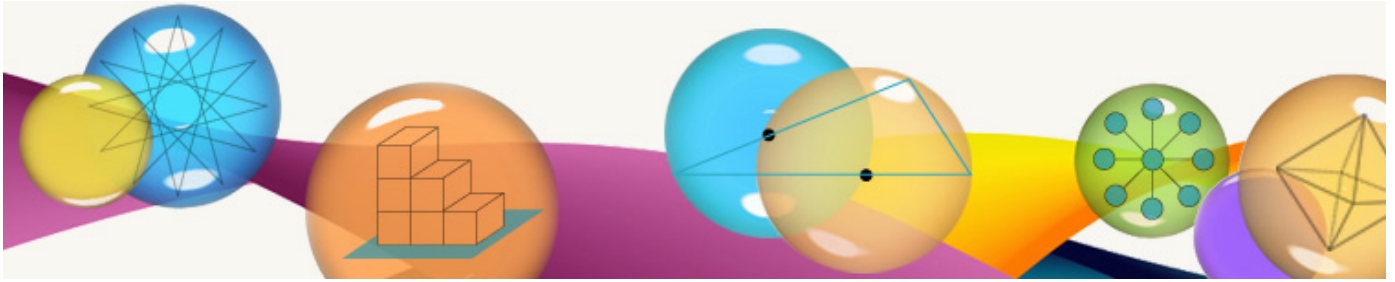


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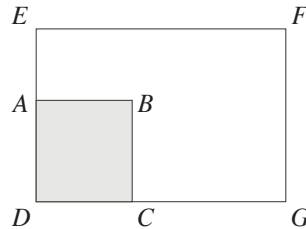
# Problem of the Week



## Problem D (Formerly Grade 9/10) The Case of the Missing Square

Rectangle  $DEFG$  has square  $ABCD$  removed leaving an area of  $92 \text{ m}^2$ . Side  $AE = 4 \text{ m}$  and side  $CG = 8 \text{ m}$ .

Determine the original area of rectangle  $DEFG$ .



## Problem E (Formerly Grade 11/12) Palindrome Possibilities

A *palindrome* is a word or phrase which reads the same frontwards and backwards. “I prefer pi” is an excellent example of a palindrome phrase.

Numbers which remain the same when the digits are reversed are also considered to be palindromes. For example, 1287821 and 4554 are palindromic numbers.

Hannah and Habibah have a special interest in palindromic numbers. Determine, for them, the probability that a five-digit integer greater than or equal to 10 000 is a palindrome.

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