

Eastern Area Final 2010

Five in a Row Question 1

What is the value of

$$\frac{238 + (68 \times 68)}{34} \quad ?$$

Eastern Area Final 2010

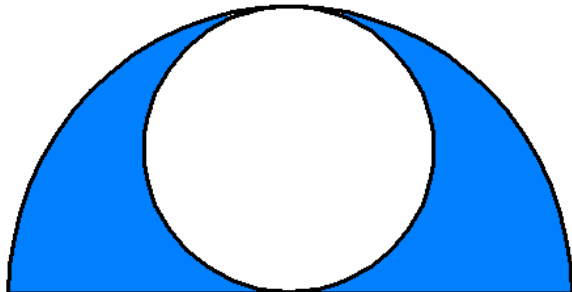
Five in a Row Question 2

What is a half of 2^{20} ?

Eastern Area Final 2010

Five in a Row Question 3

What fraction of the semicircle is shaded?



Eastern Area Final 2010

Five in a Row Question 4

On the first day of the flood, half of Noah's animals escaped.

On the second day one third of the remaining animals wandered off.

On the third day a quarter of those left hopped it.
What fraction of Noah's original menagerie is left?

Eastern Area Final 2010

Five in a Row Question 5

Find the sum of the factors of 84.

Eastern Area Final 2010

Five in a Row Question 6

ABCD is a square with sides of length 9cm.

How many points (inside and outside the square) are equidistant from B and C, and exactly 6 cm from A?

Eastern Area Final 2010

Five in a Row Question 7

The volume of a cone of height h is 400 cm^3 .
A cone of height $\frac{1}{2}h$ is removed.

What is the volume of the frustrum that remains?

Eastern Area Final 2010

Five in a Row Question 8

Jimmy bought a model of the Great Pyramid of Giza in Cairo. The height of his model is 70mm. The approximate height of the Great Pyramid is 140m.

What is the scale of the model expressed as a ratio of $1 : n$?

Eastern Area Final 2010

Five in a Row Question 9

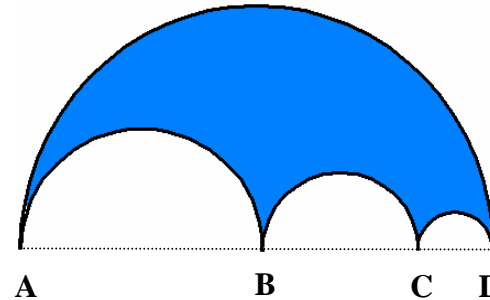
Multiple the number of faces on a tetrahedron,
by the number of vertices on a octahedron,
by the number of edges on a dodecahedron.

Eastern Area Final 2010

Five in a Row Question 10

Calculate, in terms of π , the perimeter of the
shape formed by the four semicircles.

$$AB = BD = 10\text{cm and } BC = 6\text{cm}$$



Eastern Area Final 2010

Five in a Row Question 11

When built the height of the great Pyramid of Giza
was 480 feet.

Due to erosion it is now only 455 feet.

Calculate the percentage reduction to the nearest
percent.

Eastern Area Final 2010

Five in a Row Question 12

Place the following fractions in ascending order
(smallest first).

$$A \frac{7}{15} \quad B \frac{3}{7} \quad C \frac{11}{23} \quad D \frac{4}{9} \quad E \frac{5}{11}$$

Eastern Area Final 2010

Five in a Row Question 13

The mean weight of five giant dates was 50g. Kate ate one and the mean weight of the four remaining dates was 40g.

What was the weight of the date that Kate ate?

Eastern Area Final 2010

Five in a Row Question 14

The time shown on a digital clock is 5:55.

How many minutes will pass before the clock next shows a time for which all the digits are the same?

Eastern Area Final 2010

Five in a Row Question 15

After a year's training Jessica Gofaster increased her average speed in the London Marathon by 25%.

By what percentage did her time decrease?

Eastern Area Final 2010

Five in a Row Question 16

In a game of Battle Tops,
Spinner A has numbers 2, 3, 5, 7, 9.
Spinner B has numbers 1, 4, 6, 8.

Find the probability that Spinner A will beat spinner B.