

MATHEMATTIC

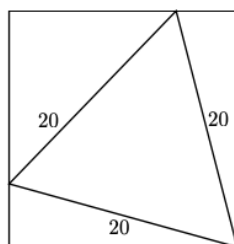
No. 66

The problems in this section are intended for students at the secondary school level.

Click here to submit solutions, comments and generalizations to any problem in this section.

*To facilitate their consideration, solutions should be received by **September 30, 2025**.*

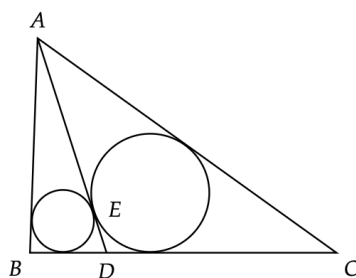
MA326. An equilateral triangle, 20 cm on a side, is inscribed in a square as shown in the diagram. Find the length of the side of the square.



MA327. Find all triples (p, q, r) where p, q, r are positive integers of which at least two are prime for which

$$\frac{1}{p} + \frac{1}{q} = \frac{1}{r}.$$

MA328. In the diagram, triangle ABC has sides of length $AB = 7$, $AC = 12$, $BC = 10$. There is a point D on BC such that the circles inscribed in triangles ABD and ACD are both tangent to the line AD at a common point E . Find the length of the line segment BD .



MA329. Nine people attend a dinner where there are three choices for the type of meal. Three people order combo *A*, three order combo *B* and three order combo *C*. The server distributes the nine meals in random order. In how many different ways can exactly one person receive the correct meal?

MA330. The x -coordinates of the vertices of a square in the plane are 1, 3, 8 and 10. Determine the area of the square.

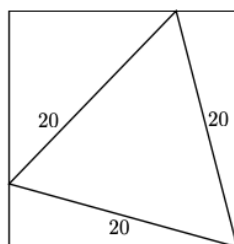
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Les problèmes proposés dans cette section sont appropriés aux étudiants de l'école secondaire.

Cliquez ici afin de soumettre vos solutions, commentaires ou généralisations aux problèmes proposés dans cette section.

Pour faciliter l'examen des solutions, nous demandons aux lecteurs de les faire parvenir au plus tard le 30 septembre 2025.

MA326. Un triangle équilatéral dont chacun des côtés mesure 20 cm est inscrit dans un carré comme indiqué sur le schéma que voici. Trouvez la longueur de chacun des côtés du carré.



MA327. Trouvez tous les triplets (p, q, r) , où p, q, r sont des entiers positifs dont au moins deux sont premiers pour lesquels

$$\frac{1}{p} + \frac{1}{q} = \frac{1}{r}.$$

MA328. Dans le diagramme, le triangle ABC a des côtés de longueur $AB = 7$, $AC = 12$ et $BC = 10$. Il existe un point D sur BC tel que les cercles