Geometry Droodle Reviewdle for Polygons, Circles, Right Triangle Trig

by David Pleacher

Write your own title for the droodle at the right:

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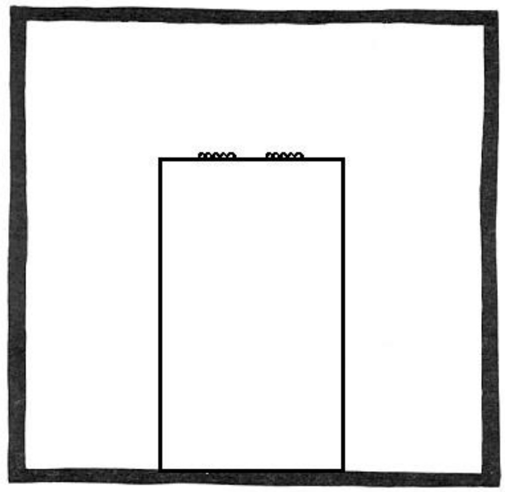

Now solve the problems below and find the correct letter for each answer. Place that letter in the blank above the corresponding number below and you will find the title that David Morrison of Mulkeytown, Illinois gave to this droodle when he made it up and published it in *GAMES* magazine in the March / April issue 1979.

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14 3 15   12 4 14 14 4 7   11 10 15 1   4 6   13

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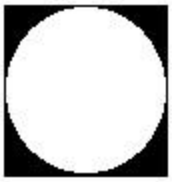
16 10 11 10 9 8   12 4 13 2 16   12 15 6 4 2 15   13   16 10 11 15

PROBLEMS	ANSWERS
__ 1. How many diagonals does a nonagon have?	A. 42
__ 2. What is a polygon of 7 sides called?	B. x
__ 3. find the sum of the measures of the angles of a polygon with 13 sides.	C. 10
__ 4. What is the number of sides of a convex polygon if the sum of the measures of its interior angles is 3,600 degrees?	D. 6.712
	E. 12/5
__ 5. What is the diameter of a circle whose circumference is 10π units?	F. 24π
__ 6. Find the circumference of a circle whose radius is 12 units.	G. $5\sqrt{2}$
__ 7. Find the area of a circle whose circumference is 12π units.	H. 1980
__ 8. Find the radius of a circle whose area is 50πsquare units.	I. $64 - 16\pi$
__ 9. The radius of a circle is 8 units. Find the area of a sector whose arc is 80°.	J. 2340

PROBLEMS

__ 10. In the diagram, the square is circumscribed about the circle. If the diameter of the circle is 8 units, find the area of the shaded region.

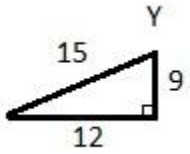


__ 11. Determiine the value of cos 78°.

__ 12. In the diagram, $\sin\angle P = \frac{\quad}{w}$

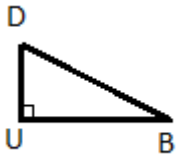
__ 13. If $\tan\angle M = .9$, find the measure of $\angle M$.

__ 14. In the diagram, determine the $\cos\angle Y$.



__ 15. In $\triangle UQT$, $\angle Q$ is a right angle, $UT = 13$, and $UQ = 5$. Find $\tan\angle U$.

__ 16. In the diagram, $\angle U$ is a right angle, $UB = 8$, and $m\angle B = 40°$. Find DU.



ANSWERS

K. 20

L. 25

M. 36π

N. $\frac{128\pi}{9}$

O. 22

P. 64 - 8π

Q. hexagon

R. heptagon

S. .978

T. 3/5

U. 4/5

V. .208

W. 27

X. 5/13

Y. Y

Z. 5/12