

Scoring

Scoring

0:00 - 0:30	10 points
0:31 - 1:00	8 points
1:01 - 1:30	6 points
1:31 - 2:00	4 points

If the first person to answer is correct, they receive
2 Bonus Points.

Rules

Rules

1.

Rules

Rules

5. Answers with radicals must be simplified. Denominators must be rationalized.
6. Exponents should be positive.
- 7.

Sample Problem # 1

Sample Problem

RESET :

Solve for x in the equation

$$x^2 - 6x - 3 = 0$$

Sample Problem

Answer: $3 + 2\sqrt[3]{3}$ and $3 - 2\sqrt[3]{3}$.

Geometry

Algebra II

Comprehensive Part 1

Comprehensive Part 2

Team

Geometry

Algebra II

Comprehensive Part 1

Comprehensive Part 2

Team

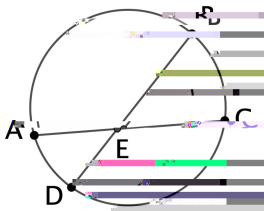
Geometry Question # 1

Geometry Question # 2

Geometry Question # 2

RESET :

Points A , B , C and D are on the circle, with secant lines \overline{AC} and \overline{BD} intersecting at point E . If $m\overline{BC} = 60^\circ$ and $m\angle BEC = 50^\circ$, find $m\angle ECD$, in degrees.



Geometry Question # 2

Answer:

Geometry Question # 2

Answer: 20

Round 1

Algebra II

Algebra II Question # 3

Algebra II Question # 3

RESET :

If $x = 1$ is a solution to $x^3 + 2x^2 - 31x + 28 = 0$, find the larger of the other two solutions.

Algebra II Question # 3

Answer:

Algebra II Question # 4

Algebra II Question # 4

Answer: 9

Comprehensive Part 1

Question # 5

Comprehensive Part 1 Question # 5

RESET

Comprehensive Part 1 Question # 5

Answer:

Comprehensive Part 1 Question # 5

Answer: $\frac{3}{2}; \frac{5}{2}$

Comprehensive Part 1

Question # 6

Comprehensive Part 1 Question # 6

RESET :

$$\text{If } \sin \theta = \frac{1}{2}, \text{ find } \tan^2 \theta.$$

Comprehensive Part 1 Question # 6

Answer:

Comprehensive Part 1 Question # 6

Answer: $\frac{2}{3}$

Comprehensive Part 2

Question # 7

Comprehensive Part 2 Question # 7

RESET :

Let \otimes be defined by $a \otimes b = a^2 + 2^b$. If $5 \otimes b = 41$, what is b ?
Provide your answer as an integer or simplified fraction.

Comprehensive Part 2 Question # 7

Answer: 4

Comprehensive Part 2

Question # 8

Team Question # 9

Team Question # 9

RESET :

Find the summation of

Volume of a right square based pyramid with a height of 5 and a
base side of length 3

+

Measure of an exterior angle in a regular pentagon

+

Radius of circle defined by $x^2 + 6x + y^2 - 12y = 4$

Team Question # 9

Answer:

Team Question # 9

Answer: 94

Team Question # 10

Team Question # 10

RESET :

A sequence is defined by $a_n = a_{n-1} + a_{n-2} + a_{n-3}$ for $n \geq 4$.
Suppose $a_4 = 20$, $a_5 = 36$, and $a_7 = 121$. What is a_3 ?

Team Question # 10

Answer:

End of Round 1