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

1.

Rules

5. Answers with radicals must be simpli ed. Denominators must be rationalized.
6. Exponents should be positive.
7.

Sample Problem # 1

Sample Problem

RESET		

Solve for x in the equation

$$x^2 \quad 6x \quad 3 = 0$$

Sample Problem

Answer: $3 + 2\sqrt{3}$ and $3 \quad 2\sqrt{3}$.

Compr.93stionTJ1g # 31(I)]21G1g1G1g1G0g0G0g0G0.12k0.86100.12K0g0G0g0G0g0G0g0G0g0G0g0G0g0G076Tf24.787123--56.2Td1

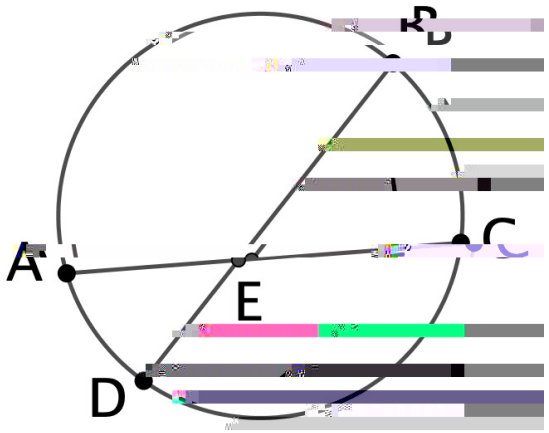
Geometry Question # 1

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 $m\overline{BC} = 60°$ and $m\angle BEC = 50°$, nd $m\angle ECD$, in degrees.



Geometry Question # 2

Answer:

Geometry Question # 2

Answer: 20

Round 1

Algebra II

Algebra II Question # 3

Algebra II Question # 3

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If $x = 1$ is a solution to $x^3 + 2x^2 \quad 31x + 28 = 0$, nd 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

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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

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If sin $= \frac{1}{2}$, nd 1 $\tan^2$.

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

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Let $?$ be de ned by $a ? b = a^2 + 2^b$. If $5 ? b = 41$, what is b? Provide your answer as an integer or simpli ed 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 de ned by $x^2 + 6x + y^2 \quad 12y = 4$

Team Question # 9

Answer:

Team Question # 9

Answer: 94

Team Question # 10

Team Question # 10

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

Team Question # 10

Answer:

End of Round 1