

**College of Charleston
Math Meet 2006 (samples)**

**Junior Varsity Team Elimination
Round 0**

- Welcome!
- Do not sit in the first three rows.
- Only calculators without computer algebra systems are allowed in this event.

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Question 1:

Your weekly paycheck is 15% more than your co-worker's. Your two paychecks total \$860. Find the amount of your co-worker's paycheck.

See Answer

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Question 1:

Your weekly paycheck is 15% more than your co-worker's. Your two paychecks total \$860. Find the amount of your co-worker's paycheck.

Answer: \$400

See Next Question

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Question 2:

A bowl contains 7 red, 1 white and 2 blue marbles. Three marbles are drawn in succession, without replacement. If the first two marbles are red and white, what is the probability that the third marble is red?

See Answer

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Question 2:

A bowl contains 7 red, 1 white and 2 blue marbles. Three marbles are drawn in succession, without replacement. If the first two marbles are red and white, what is the probability that the third marble is red?

Answer: $\frac{6}{8}$ or $\frac{3}{4}$

See Next Question

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Question 3:

In a paper bag there are 25 red M&M's and 75 green M&M's. With my eyes closed, I take two out of the bag and eat them. Then, I take another one out of the bag and place it on the table. What is the probability that it is red? (Write your answer in decimal form.)

See Answer

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Question 3:

In a paper bag there are 25 red M&M's and 75 green M&M's. With my eyes closed, I take two out of the bag and eat them. Then, I take another one out of the bag and place it on the table. What is the probability that it is red? (Write your answer in decimal form.)

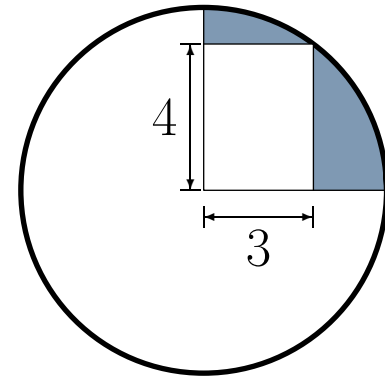
Answer: .25

See Next Question

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Question 4:

One corner of the rectangle shown is the center of the circle. What whole number do you get if you find the area of the shaded region and *round up*?

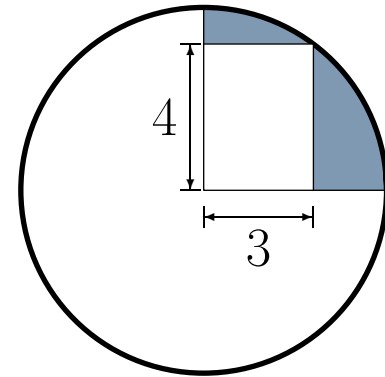


See Answer

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Question 4:

One corner of the rectangle shown is the center of the circle. What whole number do you get if you find the area of the shaded region and *round up*?



Answer: 8

See Next Question

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Question 5:

Given that the sequence $a, b - a, b, a + b$ is an arithmetic progression for two positive numbers a and b , find $\frac{a}{b}$.

See Answer

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Question 5:

Given that the sequence $a, b - a, b, a + b$ is an arithmetic progression for two positive numbers a and b , find $\frac{a}{b}$.

Answer: $\frac{1}{3}$

See Next Question

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Question 6:

Write

$$\frac{5 - i}{-7 + 2i}$$

in the form $a + bi$, where a and b are real numbers written as fractions in lowest form.

See Answer

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Question 6:

Write

$$\frac{5 - i}{-7 + 2i}$$

in the form $a + bi$, where a and b are real numbers written as fractions in lowest form.

Answer: $\frac{-37}{53} - \frac{3}{53}i$

See Next Question

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Question 7:

Find an equation of the line containing the point $(1, -2)$ that is perpendicular to the line $x + 3y = 6$. Write your answer in $y = mx + b$ form.

See Answer

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Question 7:

Find an equation of the line containing the point $(1, -2)$ that is perpendicular to the line $x + 3y = 6$. Write your answer in $y = mx + b$ form.

Answer: $y = 3x - 5$

See Next Question

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Question 8:

Find the surface area of a rectangular box with length 8 feet, width 4 feet, and height 7 feet.

[See Answer](#)

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Question 8:

Find the surface area of a rectangular box with length 8 feet, width 4 feet, and height 7 feet.

Answer: 232

[See Next Question](#)

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Question 9:

Solve for all real numbers x , such that $\sqrt{2x + 11} = x$. Your answer must be exact.

See Answer

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Question 9:

Solve for all real numbers x , such that $\sqrt{2x + 11} = x$. Your answer must be exact.

Answer: $x = 1 + 2\sqrt{3}$.

[See Next Question](#)

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Question 10:

A mother and father have six sons and each son has one sister. How many people are there in this family in total?

See Answer

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Question 10:

A mother and father have six sons and each son has one sister. How many people are there in this family in total?

Answer: 9

See Next Question