1. –/2.72 points My Notes Ask Your Teacher

Evaluate the expression.

$_{13}P_2$

2. –/2.72 points My Notes Ask Your Teacher

In how many ways can a chairperson and a vice chairperson be selected from a committee of 20 senators?

ways

3. –/2.72 points My Notes Ask Your Teacher

Evaluate the expression.

$\binom{11}{8}\binom{5}{3}\binom{4}{1}$

4. –/2.72 points My Notes Ask Your Teacher

Decide whether you would use a permutation, a combination, or neither. Next, write the solution using permutation notation or combination notation, if possible, and, finally, answer the question.

In how many ways can six books be arranged on a bookshelf?

ways

5. –/2.72 points My Notes Ask Your Teacher

A certain lock has four tumblers, and each tumbler can assume seven positions. How many different possibilities are there?

possibilities

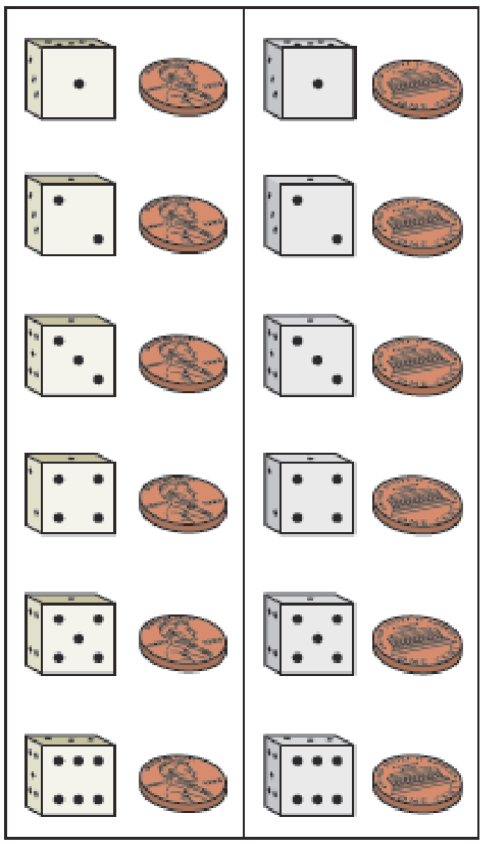
6. **–/2.72 points** **My Notes** **Ask Your Teacher**

Give the probability in decimal form (correct to two decimal places). A calculator may be helpful.

Last semester, a certain professor gave 30 As out of 362 grades. If one of the professor's students from last semester were selected randomly, what is the probability that student received an A? (Assume that each student receives one grade.)

7. **–/2.72 points** **My Notes** **Ask Your Teacher**

Suppose that you toss a coin and roll a die. The sample space is shown in the figure below.



(a) What is the probability of obtaining tails and a four? (Enter the probability as a fraction.)

(b) What is the probability of obtaining tails or a four? (Enter the probability as a fraction.)

(c) What is the probability of obtaining heads and a two? (Enter the probability

as a fraction.)

8. –/2.72 points My Notes Ask Your Teacher

An oil-drilling company knows that it costs $25,000 to sink a test well. If oil is hit, the income for the drilling company will be $455,000. If only natural gas is hit, the income will be $160,000. If nothing is hit, there will be no income. If the probability of hitting oil is 1/40 and if the probability of hitting gas is 1/20, what is the expectation for the drilling company?

$

Should the company sink the test well?

- Yes
- No

9. –/2.72 points My Notes Ask Your Teacher

Find the requested probability.

$P(\overline{A})$ if $P(A) = 0.9$

$P(\overline{A}) =$

10. –/2.72 points My Notes Ask Your Teacher

The probability of drawing a diamond from a deck of cards is $\frac{1}{4}$; what are the odds in favor of drawing a diamond from an ordinary deck of cards?

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11. –/2.8 points My Notes Ask Your Teacher

A single card is drawn from a standard deck of cards. Find the probability if the given information is known about the chosen card. A face card is a jack, queen, or king.

$P(\text{face card} \mid \text{queen})$

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