

# Recap of general math

warm up!

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## Example 1

A coin is thrown 3 times .what is the probability that atleast one head is obtained?

## Example 2

Find the probability of getting a numbered card when a card is drawn from the pack of 52 cards.

## Example 3

What is the probability of getting a sum of 7 when two dice are thrown?

## Example 4

A box contains three coins: two regular coins and one fake two-headed coin ( $P(H) = 1$ ),

- 1) You pick a coin at random and toss it. What is the probability that it lands heads up?
- 2) You pick a coin at random and toss it, and get heads. What is the probability that it is the two-headed coin?

### Example 5

Multiply matrices:

$$\begin{bmatrix} 5 & 1 \\ 4 & 2 \\ 4 & 3 \\ 2 & 4 \end{bmatrix} \begin{bmatrix} 5 & 1 & 99 & -1 \\ 8 & 0 & 87 & 0 \end{bmatrix} \quad (1)$$

$$\begin{bmatrix} 5 & 1 & 99 & -1 \\ 8 & 0 & 87 & 0 \end{bmatrix} \begin{bmatrix} 5 & 1 \\ 4 & 2 \\ 4 & 3 \\ 2 & 4 \end{bmatrix} \quad (2)$$

NOTE: To get 10 grade, solve one of the following. Otherwise you'll get 8.

### Example 6

A patient goes to see a doctor. The doctor performs a test with 99 percent reliability – that is, 99 % of people who are sick test positive and 99 % of the healthy people test negative. The doctor knows that only 1 percent of the people in the country are sick. Now the question is: if the patient tests positive, what are the chances the patient is sick?

### Example 7

Using vector dot product calculate the angle of the body diagonals of the cube.  
(Radinas, angle or cos)