

Algebra 1 10/3

Warm Up IXL

3rd Grade

V.1

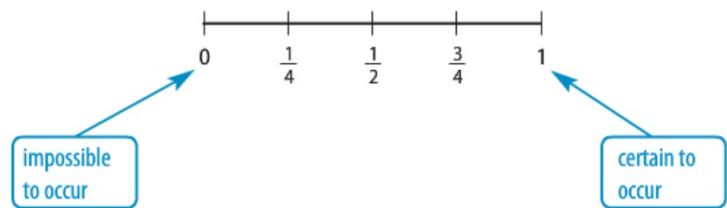
0-11 Simple Probability and Odds

I can find the probability and odds of simple events

Probability

the ratio of the number of favorable outcomes for the event to the total number of possible outcomes.

Probability is always between 0 and 1



Sample Space

the list of all possible outcomes for an event

Equally Likely

outcomes that have the same probability

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Ex. 1 A die is rolled. Find each probability

A. rolling a 1 or 5

$$\frac{2 \div 2}{6 \div 2} = \frac{1}{3}$$

B. rolling an even number

$$\frac{3 \div 3}{6 \div 3} = \frac{1}{2}$$

I can find the probability and odds of simple events

complements

an event and its opposite there sum is always 1
rolling a 1 and not rolling a 1

$$P(1) \text{ and } P(\text{not } 1) \quad \frac{1}{6} + \frac{5}{6} = \frac{6}{6} = 1$$

Ex. 2 A bowl contains 5 red chips, 7 blue chips, 6 yellow chips, and 10 green chips. One chip is randomly drawn find each probability. $5 + 7 + 6 + 10 = 28$

A. blue

$$\frac{7}{28} = \frac{1}{4}$$

C. not green

$$\frac{28 - 10}{28} = \frac{18}{28} = \frac{9}{14}$$

B. red or yellow

$$\frac{5 + 6}{28} = \frac{11}{28}$$

D. not blue or red

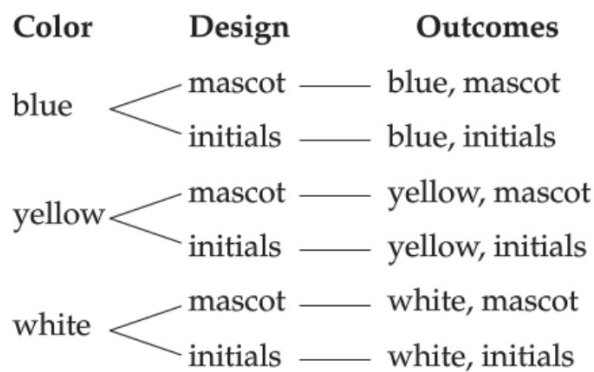
$$\frac{21 + 5}{28} = \frac{26}{28} = \frac{13}{14}$$

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Tree diagram

a method used for counting the number of possible outcomes using a diagram. The last column shows all the possible outcomes

Ex. 3 School baseball caps come in blue, yellow, or white. The caps have either the school mascot or the schools initials. Use a tree diagram to determine the number of different caps possible.



I can find the probability and odds of simple events

Fundamental Counting Principle

relates the number of outcomes to the number of choices using multiplication

If Event 1 has m ways to occur and Event 2 has n ways to occur then Event 1 followed by Event 2 has $m \cdot n$ ways to occur

Ex. 4 An ice cream shop offers one, two, or three scoops of ice cream from among 12 different flavors. The ice cream can be served in a wafer cone, a sugar cone, or in a cup. Use the Fundamental Counting Principle to determine the number of possible choices.

$$3 \cdot 12 \cdot 3 = 108$$

I can find the probability and odds of simple events

Ex. 5 Jimmy needs to make a 3-digit password for his log-on name on a Web site. The password can include any digit from 0-9, but the digits may not repeat. How many possible 3 digit passwords are there?

$$10 \cdot 9 \cdot 8$$

$$720$$

I can find the probability and odds of simple events

odds

is the ratio that compares the number of ways an event can occur (successes) to the number of ways it cannot occur (failures).

Ex. 6 Find the odds of rolling a number less than 3 on a normal die.

$$= \frac{2 \leftarrow \text{can}}{4 \leftarrow \text{cannot}}$$
$$= \frac{1}{2}$$

I can find the probability and odds of simple events

ICA Pg P36

#2-22ev

Hmwk IXL 8th EE.1