

Geo 12.1 Practice Solutions

A bag contains 4 red marbles, 5 white marbles, 3 maroon marbles and 1 blue marble.

1) Draw a diagram of the sample space.



Find the given probabilities.

2) P(red marble)=

$$\frac{4}{13} = .3077 = 30.77\%$$

3) P(green marble)=

$$\frac{0}{13} = 0 = 0\%$$

4) P(maroon marble)=

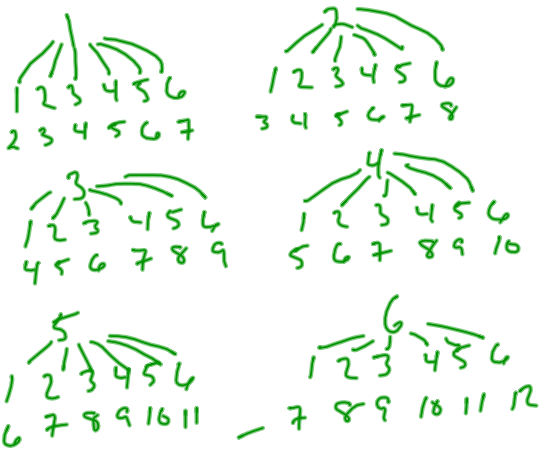
$$\frac{3}{13} = .2308 = 23.08\%$$

5) P(not a blue marble)=

$$\frac{12}{13} = .9231 = 92.31\%$$

Roll two dice and add up what numbers show.

6) Make a tree diagram to show the sample space



Find the given probabilities

7) P(sum of 10)=

$$\frac{3}{36} = \frac{1}{12} = .0833 = \boxed{8.33\%}$$

8) P(sum of 2)=

$$\frac{1}{36} = .0278 = 2.78\%$$

9) P(sum less than 9)=

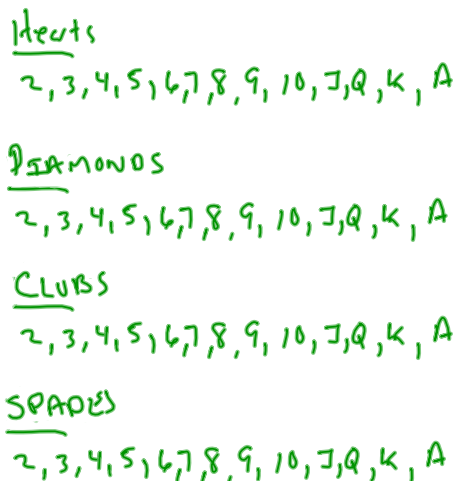
$$\frac{26}{36} = \frac{13}{18} = .7222 = 72.22\%$$

10) What sum has the highest probability? What is it?

$$7 \rightarrow \frac{1}{6} = .1667 = 16.67\%$$

A deck of cards has 4 suits (hearts, diamonds, spades and clubs). Each suit has 13 cards (2 - 10, jack, queen, king, ace). Hearts and diamonds are red cards. Clubs and spades are black cards. Face cards are jack, queen and king.

11) Make a diagram of the sample space.



Find the given probabilities

12) P(picking a heart)=

$$\frac{1}{4} = .25 = 25\%$$

13) P(face card)=

$$\frac{12}{52} = \frac{3}{13} = .2308 = 23.08\%$$

14) P(not a face card)=

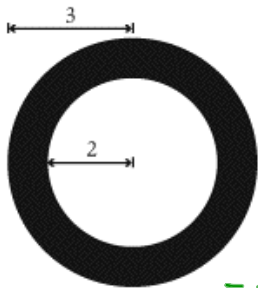
$$\frac{40}{52} = \frac{10}{13} = .7692 = 76.92\%$$

15) P(a red face card)=

$$\frac{6}{52} = \frac{3}{26} = .1154 = 11.54\%$$

Directions: Find the probability of a point being in the shaded region.

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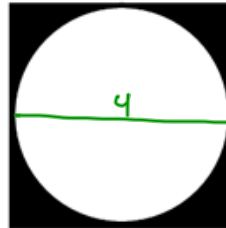


Big - Small

$$\frac{\pi 3^2 - \pi 2^2}{\pi 3^2} = \frac{9\pi - 4\pi}{9\pi}$$

$$= \frac{5\pi}{9\pi} = \frac{5}{9} = .5556 = 55.56\%$$

17) Square with sides of length 4 inches.

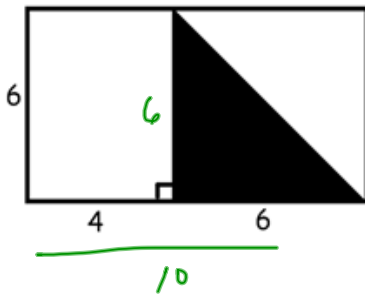


SQUARE - CIRCLE
SQUARE

$$\frac{4^2 - \pi 2^2}{4^2} = \frac{16 - 4\pi}{16}$$

$$\frac{3.4336}{16} = .2146 = 21.46\%$$

18) Rectangle and right triangle

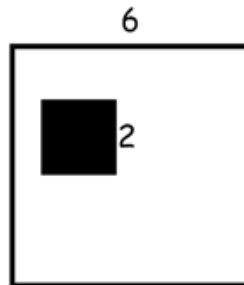


TRIANGLE
RECTANGLE

$$\frac{\frac{1}{2}(6)(6)}{6(10)}$$

$$\frac{18}{60} = \frac{3}{10} = .3 = 30\%$$

19) Two squares



$$\frac{4}{36} = \frac{1}{9} = .1111$$

$$= 11.11\%$$