

## Describing and Calculating Probabilities

## Level 5

1. Think of an event where:
  - a. the outcome is certain;
  - b. the outcome is impossible;
  - c. the outcome has an even chance of occurring.
2. What fractions would you use to describe:
  - a. the chance of picking a red card at random from a pack of 52 cards?
  - b. the chance of picking a club card?

Place these fractions on the probability scale:



3. Describe an event that has a probability of  $\frac{1}{4}$ . Where would this go on the probability scale?
4. What is the probability of rolling, on a normal dice :
  - a. a 5?
  - b. an odd number?
  - c. zero?
  - d. a number greater than 2?
  - e. a number lying between 0 and 7?

5. A newsagent delivers these papers, one to each house.

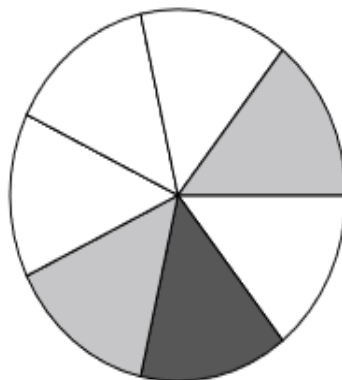
<i>Sun</i> 250	<i>Times</i> 120
<i>Mirror</i> 300	<i>Mail</i> 100
<i>Telegraph</i> 200	<i>Express</i> 80

- What is the probability that a house picked at random has:
- a. the *Times*?
  - b. the *Mail* or the *Express*?



Use each diagram to solve the problems.

- 1) How many pieces are there total in the spinner?
- 2) If you spun the spinner 1 time, what is the probability it would land on a gray piece?
- 3) If you spun the spinner 1 time, what is the probability it would land on a black piece?
- 4) If you spun the spinner 1 time, what is the probability it would land on a white piece?
- 5) If you spun the spinner 1 time, what is the probability of landing on either a white piece or a black piece?



**Answers**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_



- 6) If you were to roll the dice one time what is the probability it will land on a 3?
- 7) If you were to roll the dice one time what is the probability it will NOT land on a 2?
- 8) If you were to roll the dice one time, what is the probability of it landing on an even number?



- 9) How many shapes are there total in the array?
- 10) If you were to select 1 shape at random from the array, what is the probability it will be a circle?
- 11) If you were to select 1 shape at random from the array, what shape do you have the greatest probability of selecting?
- 12) Which shape has a **20% chance** of being selected?

