THE STRIVING

MUSLIM ACADEMY

Islamic and Academic Education

YEARS 7 TO 9 · MATHEMATICS · PRACTICE PACK

Probability and statistics

The key stage 3 programme of study. The sets get harder through the pack, from arriving in Year 7 to leaving Year 9, and every question is worked through at the back.

WHAT IS INSIDE

- Probability of one event
- Mean, median, mode and range
- Frequency tables and reading a chart
- How each one is worked

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3 sets · a hint on every question

Written for a parent teaching at home. No training assumed, and nothing else to buy.

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Probability of one event

These get harder as you go down. Do them in order.



1. **A bag holds 10 counters and 1 of them are red. What is the probability of taking a red one?**

   Probability is the number of ways it can happen over the number of ways anything can happen.

2. **A bag holds 8 counters and 6 of them are red. What is the probability of taking a red one?**

   Probability is the number of ways it can happen over the number of ways anything can happen.

3. **A bag holds 6 counters and 5 of them are red. What is the probability of taking a red one?**

   Probability is the number of ways it can happen over the number of ways anything can happen.

4. **A bag holds 8 counters and 5 of them are red. What is the probability of taking a red one?**

   Probability is the number of ways it can happen over the number of ways anything can happen.

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Quick check

One right answer each. Ring the letter. These are for seeing what has stuck, so do them without working anything out on paper.



1. **Find the range of 6, 9, 14, 16, 37, 43**

   (A) 3 (B) 24 (C) 37 (D) 15.8

2. **Two fair six-sided dice are rolled and the scores added. How many different pairs of rolls are there altogether?**

   (A) 20.6 (B) 28 (C) 36 (D) 11

3. **A frequency table of scores 1 to 5 shows 6, 5, 1, 7, 1. Which score is the mode?**

   (A) 15.8 (B) 9 (C) 4 (D) 36

4. **A tally of four colours gives 7, 9, 8, 7. How many were counted altogether?**

   (A) 31 (B) 29 (C) 4 (D) 14.8

5. **Find the median of 3, 6, 9, 22, 40**

   (A) 9 (B) 15.4 (C) 14.8 (D) 29

6. **Find the mean of 7, 11, 11, 19, 26**

   (A) 37 (B) 15.4 (C) 31 (D) 14.8

7. **A frequency table of scores 1 to 5 shows 1, 1, 5, 6, 4. Which score is the mode?**

   (A) 9 (B) 29 (C) 4 (D) 28

8. **Two fair six-sided dice are rolled and the scores added. How many different pairs of rolls are there altogether?**

   (A) 20.6 (B) 36 (C) 15.4 (D) 4

9. **A tally of four colours gives 5, 9, 7, 3. How many were counted altogether?**

   (A) 31 (B) 24 (C) 11 (D) 28

10. **Find the range of 5, 28, 29, 32, 34, 36**

    (A) 26 (B) 5 (C) 28 (D) 31

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How each one is worked

Every question, with the steps. Mark it together.



PROBABILITY OF ONE EVENT

1. A bag holds 10 counters and 1 of them are red. What is the probability of taking a red one?

1. There are 1 reds out of 10 counters.
2. So the probability is $\frac{1}{10}$, which is 0.1 as a decimal.

Answer: $\frac{1}{10}$

2. A bag holds 8 counters and 6 of them are red. What is the probability of taking a red one?

1. There are 6 reds out of 8 counters.
2. So the probability is $\frac{6}{8}$, which is 0.75 as a decimal.

Answer: $\frac{6}{8}$

3. A bag holds 6 counters and 5 of them are red. What is the probability of taking a red one?

1. There are 5 reds out of 6 counters.
2. So the probability is $\frac{5}{6}$, which is 0.8333 as a decimal.

Answer: $\frac{5}{6}$

4. A bag holds 8 counters and 5 of them are red. What is the probability of taking a red one?

1. There are 5 reds out of 8 counters.
2. So the probability is $\frac{5}{8}$, which is 0.625 as a decimal.

Answer: $\frac{5}{8}$

5. The probability of rain is $\frac{5}{10}$. What is the probability it does not rain?

1. Everything that can happen adds to 1.
2. So $1 - \frac{5}{10} = \frac{5}{10}$.

Answer: $\frac{5}{10}$

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SAMPLE PAGES

You have read a few pages. The pack is longer.

What you are holding is a short sample, taken from different parts of the pack so that you can see how a week is planned and what a child is actually asked to do, before you decide.

The complete pack, and the rest of the academic materials, are on our website: schemes of work for a parent teaching at home, and practice packs for the skills children get stuck on.

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Islamic and Academic Education

Members of the homeschool community do not buy these. If you have joined the community, the pack for the term you are working on is given to you at no cost.

Our Islamic Education classes are free. These packs are part of what pays the teachers who teach them.