Year 4 maths: Chance as numbers (Medium)

Maths · Data
Level: Medium

Student: _____ Date: _____

Instructions
- There are 10 questions. Read each one carefully.
- Write your answers on this paper. Use the space under a question to work it out.
- A grown-up can read a question aloud — that's fine.
- The answers are at the end. Check them together when you have finished.

Questions

1. You roll a dice. What is the chance of an even number?

Circle one answer.

1	2	3	4	5	6

○ **A** 3 chances in 3 ○ **B** 1 chance in 6 ○ **C** 3 chances in 6

○ **D** 2 chances in 6

2. Which two colours together have the same chance as blue?

Circle one answer.

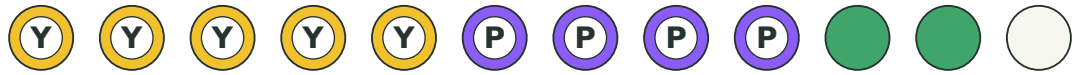
Colour	Ribbons
Red	𝍸
Blue	𝍸 |
Green	|||
Gold	||

○ **A** Red and green ○ **B** Red and blue ○ **C** Red and gold

○ **D** Green and gold

3. How many purple beads must be added so purple is as likely as yellow?

Answer: ☐ bead



Colour key: P = purple, Y = yellow

Working:

4. How many chances in 8 are there of picking an odd number?

Answer: ☐ chances in 8

2	3	6	7	11	14	18	19

Working:

5. Which is more likely: an odd number or an even number?

Circle one answer.

1	2	3	4	5	6	7

○ **A** an odd number

○ **B** They have the same chance

○ **C** an even number

6. Bag X has counters numbered 1 to 3. Bag Y has counters numbered 4 to 12. Which bag gives the greater chance of picking a multiple of 3?

Circle one answer.

○ **A** Bag X

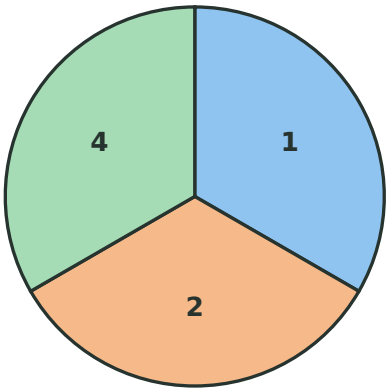
○ **B** Bag Y, because its numbers are bigger

○ **C** They are the same

○ **D** Bag Y, because it has more multiples of 3

7. The arrow on the spinner is spun twice. The two results are added to make a score. Which score is NOT possible?

Circle one answer.



○ **A** 8 ○ **B** 2 ○ **C** 7 ○ **D** 5

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8. A bag has 4 red and 2 blue balls. Is a red ball twice as likely to be picked as a blue ball?

Circle one answer.



○ **A** Yes ○ **B** No

Colour key: R = red, B = blue

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9. A bag has 3 pink, 2 white and 1 black ball. Which is just as likely to be picked as a pink ball?

Circle one answer.



○ **A** a black ball
○ **B** a white ball
○ **C** a white or black ball

Colour key: Pk = pink

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10. A bag has 4 red, 3 yellow and 3 green balls. One red ball is taken out. Which is true now?

Circle one answer.



Colour key: R = red, Y = yellow, G = green

○ **A** Red is still the most likely
○ **B** All three colours are equally likely
○ **C** Red is now the least likely

Answer key

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1. C — 3 chances in 6
The even faces are 2, 4 and 6: 3 chances in 6.

2. C — Red and gold
Blue has 6. Red 4 + gold 2 = 6.

3. 1 bead
Yellow 5, purple 4. 5 − 4 = 1 more purple.

4. 4 chances in 8
Odd: 3, 7, 11 and 19. 4 chances in 8, which is the same as 1 chance in 2.

5. A — an odd number
Odd: 1, 3, 5 and 7, that is 4 cards. Even: 2, 4 and 6, 3 cards. 4 is more than 3, so odd is more likely.

6. C — They are the same
X: only 3, 1 out of 3. Y has 9 counters and 6, 9, 12 are multiples of 3: 3 out of 9, also 1 out of 3. The same.

7. C — 7
1+1 = 2, 1+2 = 3, 1+4 = 5, 2+2 = 4, 2+4 = 6, 4+4 = 8. No pair makes 7.

8. A — Yes
Twice 2 is 4, and there are 4 red. So red has twice as many chances.

9. C — a white or black ball
White or black is 2 + 1 = 3 balls, the same as 3 pink.

10. B — All three colours are equally likely
After one red is taken out there are 3 red, 3 yellow and 3 green: all equally likely.