



# Worksheet 41

Year 3 Mathematics — Australian Curriculum v9.0

Subtopic: Categorical and Discrete Numerical Data

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 30

## Section 1: Fluency — Sorting Data (Questions 1–10)

**Instructions:** Identify which questions give Categorical Data (word/category answers).

**Question 1:** Circle the questions that give Categorical Data (Word answers):

- A. What is your eye colour?
- B. How tall are you in centimeters?
- C. What is your favourite subject?

**Answer:** \_\_\_\_\_

**Question 2:** Is "What is your name?" Categorical or Numerical Data?

**Answer:** \_\_\_\_\_

**Question 3:** Is "How many books do you own?" Categorical or Numerical Data?

**Answer:** \_\_\_\_\_

**Question 4:** Circle the Categorical Data: (Red, Blue, Green) OR (5, 10, 15)

**Answer:** \_\_\_\_\_

**Question 5:** Which question gives a Categorical answer?

- A. What type of car do you drive?
- B. How many wheels does your car have?



Answer: \_\_\_\_\_

**Question 6:** True or False: "Favourite sport" is Categorical Data.

Answer: \_\_\_\_\_

**Question 7:** List 3 examples of Categorical Data questions you could ask:

Answer 1: \_\_\_\_\_

Answer 2: \_\_\_\_\_

Answer 3: \_\_\_\_\_

**Question 8:** Is "What month were you born?" Categorical or Numerical?

Answer: \_\_\_\_\_

**Question 9:** Which of these is NOT Categorical Data?

- A. Hair colour
- B. Age in years
- C. Favourite food

Answer: \_\_\_\_\_

**Question 10:** Categorical Data sorts things into \_\_\_\_\_ or \_\_\_\_\_.

Answer: \_\_\_\_\_



**Good Job!**

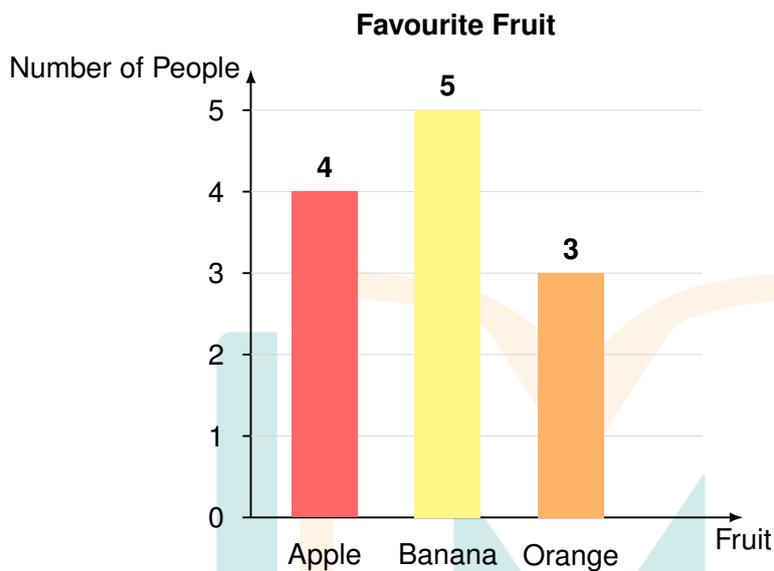
What is a butterfly's favorite subject? Moth-ematics!



## Section 2: Reasoning — Reading Column Graphs (Questions 11–20)

**Instructions:** Use the Column Graph to answer questions.

**Questions 11-15:** Look at this Column Graph showing Favourite Fruit.



**Question 11:** Which fruit has the most votes?

**Answer:** \_\_\_\_\_

**Question 12:** How many people liked Bananas?

**Answer:** \_\_\_\_\_

**Question 13:** How many people liked Apples?

**Answer:** \_\_\_\_\_

**Question 14:** Which fruit has the fewest votes?



Answer: \_\_\_\_\_

**Question 15:** How many people voted in total?

Answer: \_\_\_\_\_

**Question 16:** Look at this data. What type of graph would you use to display it?

**Data:** Favourite Colours: Red, Blue, Blue, Red, Green, Blue

Answer: \_\_\_\_\_

**Question 17:** True or False: Column Graphs are good for showing Categorical Data.

Answer: \_\_\_\_\_

**Question 18:** On a Column Graph for Categorical Data, what goes on the X-axis (horizontal)?

Answer: \_\_\_\_\_

**Question 19:** On a Column Graph, what goes on the Y-axis (vertical)?

Answer: \_\_\_\_\_

**Question 20:** If we added "Mango" to the graph with 2 votes, would it have the most or least votes?

Answer: \_\_\_\_\_



### Good Job!

Why did the bar chart go to the party? To raise the bar!

## Section 3: Challenge — Creating Categories (Questions 21–30)

**Instructions:** Sort items into categories and analyze data.

**Question 21:** Sort these animals into 2 categories (you choose the rule):

**Animals:** Dog, Cat, Fish, Bird, Snake, Frog

**Category 1 Name:** \_\_\_\_\_

**Items:** \_\_\_\_\_

**Category 2 Name:** \_\_\_\_\_

**Items:** \_\_\_\_\_

**Question 22:** Create 3 categories to sort these shapes: Circle, Triangle, Square, Rectangle, Oval, Pentagon

**Hint:** Think about number of sides.

**Answer:** \_\_\_\_\_

**Question 23:** Survey Question: "What is your favourite season?"

Results: Summer (6), Winter (4), Autumn (3), Spring (5)

Which season is most popular?

**Answer:** \_\_\_\_\_

**Question 24:** Using the data from Question 23, which season is least popular?

**Answer:** \_\_\_\_\_



**Question 25:** List 5 types of transport. What type of data is this?

**Answer:** \_\_\_\_\_

**Question 26:** If you asked "What brand of shoe do you wear?", would the answers be Categorical or Numerical?

**Answer:** \_\_\_\_\_

**Question 27:** Create a question that would give you Categorical Data about food:

**Answer:** \_\_\_\_\_

**Question 28:** Sort these into "Hot" or "Cold": Sun, Ice, Fire, Snow, Coffee, Juice

**Hot:** \_\_\_\_\_

**Cold:** \_\_\_\_\_

**Question 29:** Why is it useful to sort things into categories?

**Answer:** \_\_\_\_\_

**Question 30:** Give an example of Categorical Data you could collect in your classroom:

**Answer:** \_\_\_\_\_

**Good Job!**



Why did the data go to therapy? It had too many issues to sort out!



**Excellent Work! You've completed Worksheet 41!**





# Answer Key — Worksheet 41

Year 3 Mathematics

## Section 1: Fluency

1. A and C
2. Categorical
3. Numerical
4. Red, Blue, Green
5. A
6. True
7. Answers vary (e.g., favourite animal, sport, colour)
8. Categorical
9. B
10. Groups or Categories (or Names)

## Section 3: Challenge

21. Answers vary (e.g., Legs/No legs: Dog, Cat, Bird, Frog / Fish, Snake)
22. Answers vary (e.g., 3 sides, 4 sides, 5+ sides)
23. Summer
24. Autumn
25. Answers vary; Categorical
26. Categorical

## Section 2: Reasoning

11. Banana
12. 5 people
13. 4 people
14. Orange
15. 12 people
16. Column Graph
17. True
18. Categories/Names
19. Numbers/Counts
20. Least votes

27. Answers vary (e.g., What is your favourite food?)
28. Hot: Sun, Fire, Coffee; Cold: Ice, Snow, Juice
29. To organize and understand information better
30. Answers vary (e.g., favourite subject, hair colour)



## Worksheet 42

Year 3 Mathematics — Australian Curriculum v9.0

Subtopic: Categorical and Discrete Numerical Data

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 30

### Section 1: Fluency — Identifying Discrete Data (Questions 1–10)

**Instructions:** Identify Numerical Data (counted numbers).

**Question 1:** Circle the Numerical Data: (Red, Blue, Green) OR (5, 2, 8)

**Answer:** \_\_\_\_\_

**Question 2:** Is "How many siblings do you have?" Categorical or Numerical Data?

**Answer:** \_\_\_\_\_

**Question 3:** Is "What is your shoe size?" Categorical or Numerical Data?

**Answer:** \_\_\_\_\_

**Question 4:** Which question gives Numerical Data?

A. What is your favourite colour?

B. How many pets do you have?

**Answer:** \_\_\_\_\_

**Question 5:** True or False: Numerical Data is always counted in whole numbers.

**Answer:** \_\_\_\_\_



**Question 6:** Circle the Discrete Numerical Data: (Dog, Cat, Fish) OR (3, 7, 1)

**Answer:** \_\_\_\_\_

**Question 7:** List 3 questions that would give you Numerical Data:

**Answer 1:** \_\_\_\_\_

**Answer 2:** \_\_\_\_\_

**Answer 3:** \_\_\_\_\_

**Question 8:** Is "How old are you?" Categorical or Numerical?

**Answer:** \_\_\_\_\_

**Question 9:** Which is NOT Numerical Data?

- A. Number of books
- B. Favourite animal
- C. Age in years

**Answer:** \_\_\_\_\_

**Question 10:** Discrete Numerical Data is data we can .....

**Answer:** \_\_\_\_\_

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**Good Job!**

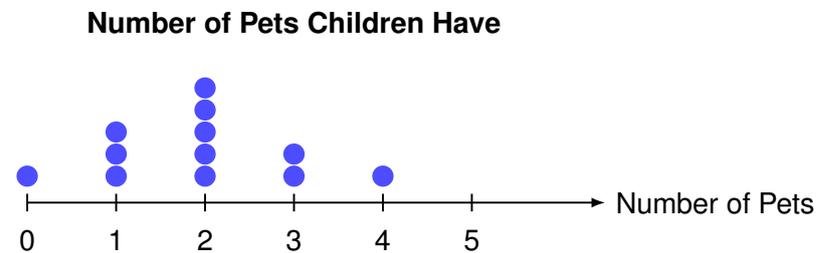
Why was six afraid of seven? Because seven eight nine!

**Section 2: Reasoning — Reading Dot Plots (Questions 11–20)**



**Instructions:** Use the Dot Plot to answer questions.

**Questions 11-16:** Look at this Dot Plot showing Number of Pets.



**Question 11:** How many children have exactly 2 pets?

**Answer:** \_\_\_\_\_

**Question 12:** What is the most common number of pets?

**Answer:** \_\_\_\_\_

**Question 13:** How many children have 1 pet?

**Answer:** \_\_\_\_\_

**Question 14:** How many children have no pets?

**Answer:** \_\_\_\_\_

**Question 15:** How many children were surveyed in total?

**Answer:** \_\_\_\_\_



**Question 16:** Does anyone have 5 pets?

**Answer:** \_\_\_\_\_

**Question 17:** True or False: Dot Plots are good for showing Discrete Numerical Data.

**Answer:** \_\_\_\_\_

**Question 18:** On a Dot Plot, what does each dot represent?

**Answer:** \_\_\_\_\_

**Question 19:** What type of data would you show on a Dot Plot? (Categorical or Numerical)

**Answer:** \_\_\_\_\_

**Question 20:** If we added one more child with 3 pets, how many dots would be above the 3?

**Answer:** \_\_\_\_\_

### Good Job!



What do you call a number that can't stay in one place? A roamin' numeral!

## Section 3: Challenge — Collecting Counts (Questions 21–30)

**Instructions:** Count objects and collect numerical data.

**Question 21:** Count the bugs below. How many bugs are there in total?



**Answer:** \_\_\_\_\_

**Question 22:** Count the legs on each bug. List the numerical data for each bug:

**Answer:** \_\_\_\_\_

**Question 23:** How many spiders are there? (Spiders have 8 legs)

**Answer:** \_\_\_\_\_

**Question 24:** How many beetles are there? (Beetles have 6 legs)

**Answer:** \_\_\_\_\_

**Question 25:** Is the bug count (spider or beetle) Categorical or Numerical Data?

**Answer:** \_\_\_\_\_

**Question 26:** Count the students in your class. Is this Categorical or Numerical Data?

**Answer:** \_\_\_\_\_

**Question 27:** You count: 3, 5, 2, 4, 3, 5, 2. What is the most common number?

**Answer:** \_\_\_\_\_



**Question 28:** Create a Dot Plot for this data: Number of goals scored: 1, 2, 2, 3, 2, 1, 0

**Question 29:** Survey your friends: "How many letters are in your first name?" Is this Numerical Data?

**Answer:** \_\_\_\_\_

**Question 30:** Give an example of Discrete Numerical Data you could collect at home:

**Answer:** \_\_\_\_\_



**Good Job!**

Why do numbers make great friends? They always count on you!

**Fantastic! You've completed Worksheet 42!**



# Answer Key — Worksheet 42

Year 3 Mathematics

## Section 1: Fluency

1. 5, 2, 8
2. Numerical
3. Numerical
4. B
5. True
6. 3, 7, 1
7. Answers vary (e.g., How many siblings? Age? Pets?)
8. Numerical
9. B
10. Count

## Section 3: Challenge

21. 5 bugs
22. 8, 6, 6, 8, 6 (legs per bug)
23. 2 spiders
24. 3 beetles
25. Categorical (type of bug); Numerical (count)

## Section 2: Reasoning

11. 5 children
12. 2 pets
13. 3 children
14. 1 child
15. 12 children
16. No
17. True
18. One person/observation
19. Numerical
20. 3 dots

26. Numerical
27. 2, 3, and 5 (tie - appear twice)
28. Check student dot plot
29. Yes
30. Answers vary (e.g., number of rooms, chairs, people)