

Represent the data in charts (Pie chart and Bar chart)

Unit: Data Analysis and Representation (Google Sheets) - Student Practice Worksheet

Overview: Anaya's chart was beautiful. It was round, and it had four colours. It also answered completely the wrong question. Ms. Rao looked at it and asked, "So which day earned the most?" Nobody could say.

Practice Questions (30 Total)

Section A - Easy

Q1. Which chart shows parts of one whole?



parts of one whole

- ☐ A. Bar chart
- ☐ B. Column chart
- ☐ C. A sorted list
- ☐ D. Pie chart

Q2. Which menu do you use to add a chart to a sheet?

- ☐ A. Insert
- ☐ B. Data
- ☐ C. Format
- ☐ D. File

Q3. What do all the slices of a pie chart add up to?

- ☐ A. 50%
- ☐ B. 100%
- ☐ C. the number of slices
- ☐ D. 0%

Q4. A bar chart is best for...



- ☐ A. showing percentages of a whole
- ☐ B. hiding rows you do not need
- ☐ C. comparing separate amounts
- ☐ D. sorting data alphabetically

Q5. Where in Google Sheets do you choose whether a new chart is a pie or a bar?

- ☐ A. the Data menu
- ☐ B. the Chart editor
- ☐ C. the Format menu
- ☐ D. the File menu

Q6. What determines how big one slice of a pie chart is drawn?

- ☐ A. its colour
- ☐ B. its share of the total
- ☐ C. the order it was typed in
- ☐ D. how many letters its label has

Q7. In a bar chart, what helps you read roughly how big each bar is?



- ☐ A. the scale of numbers along the axis
- ☐ B. the colour of the bar
- ☐ C. the shape of the pie
- ☐ D. the order of the legend

Q8. What is a real weakness of a pie chart?

- ☐ A. it cannot show more than two slices
- ☐ B. it must always use the colour blue
- ☐ C. it needs an internet connection to draw
- ☐ D. slices of nearly equal size are hard to compare

Q9. What can a bar chart show that a pie chart cannot show well?

- ☐ A. percentages of a whole
- ☐ B. the total number of slices
- ☐ C. which item is alphabetically first
- ☐ D. exactly how much bigger one amount is than another

Q10. Which of these is genuinely 'parts of one whole', suited to a pie chart?

- ☐ A. rainfall totals in four different cities
- ☐ B. test scores of four unrelated students
- ☐ C. boxes sold of four sweets from one stall
- ☐ D. heights of four different buildings

Section B - Medium

Q11. What percentage of the 40 boxes were Jalebi?



15 of 40 jalebi

- ☐ A. 15%
- ☐ B. 37.5%
- ☐ C. 30%
- ☐ D. 25%

Q12. Which chart answers 'what fraction of this week's total money came in on Wednesday', and what is the answer (to the nearest whole percent)?

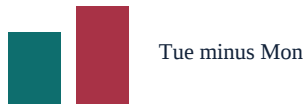
- ☐ A. Bar chart, 16%
- ☐ B. Bar chart, 180%
- ☐ C. Pie chart, 16%
- ☐ D. Pie chart, 43%

Q13. Kaju Katli sold 4 of the 40 boxes. What is its share, and how does its slice look?

- ☐ A. 10%, the smallest slice
- ☐ B. 10%, the biggest slice
- ☐ C. 4%, the smallest slice

- ☐ D. 40%, the biggest slice

Q14. Which chart answers "how many more rupees came in on Tuesday than Monday", and what is the answer?



- ☐ A. Pie chart, Rs. 550
- ☐ B. Pie chart, Rs. 70
- ☐ C. Bar chart, Rs. 550
- ☐ D. Bar chart, Rs. 70

Q15. Which single change to Anaya's first pie chart of the four days would have let her instantly see which day earned the most?

- ☐ A. adding more colours to the slices
- ☐ B. making the pie bigger
- ☐ C. sorting the days alphabetically
- ☐ D. changing the chart type to a bar chart

Q16. What percentage of the 40 boxes were Ladoo?

- ☐ A. 30%
- ☐ B. 12%
- ☐ C. 40%
- ☐ D. 33%

Q17. Which day's bar would be tallest, and by how much does it beat the next tallest?



- ☐ A. Thursday, by Rs. 110
- ☐ B. Thursday, by Rs. 70
- ☐ C. Tuesday, by Rs. 110
- ☐ D. Wednesday, by Rs. 110

Q18. What is the combined percentage of Barfi and Kaju Katli boxes together?

- ☐ A. 22.5%
- ☐ B. 32.5%
- ☐ C. 13%
- ☐ D. 40%

Q19. Ladoo and Jalebi together made up how much of the 40 boxes?

- ☐ A. 27%
- ☐ B. 57.5%
- ☐ C. 67.5%
- ☐ D. 75%

Q20. Wednesday and Monday are compared on the bar chart. Which is bigger, and by how much?

- ☐ A. Wednesday, by Rs. 60
- ☐ B. Monday, by Rs. 420
- ☐ C. Wednesday, by Rs. 420
- ☐ D. Monday, by Rs. 60

Section C - Challenge

Q21. Anaya makes a pie chart of the four days instead of a bar chart. What percentage of the four-day total is Thursday, rounded to the nearest whole number?



days as slices

- ☐ A. 37%, from $420 \div 1150$
- ☐ B. 36%, from $420 \div 1150$
- ☐ C. 42%, from $420 \div 1000$
- ☐ D. 27%, from $310 \div 1150$

Q22. Anaya says, 'A pie chart is always better, because it shows percentages.' Which response best explains why she is wrong?

- ☐ A. She is right — every chart should show percentages
- ☐ B. She is wrong — a pie only makes sense for parts of one whole, and it hides gaps between similar slices
- ☐ C. She is wrong — pie charts cannot use colour, unlike bar charts

- ☐ D. She is wrong — Google Sheets does not allow pie charts for money data

Q23. Ms. Rao asks two questions: what share of the boxes were Jalebi, and which day earned most and by how much more than Wednesday? Which option gives the right chart and answer for both?

- ☐ A. Pie for boxes: 37.5% Jalebi; Bar for days: Thursday, Rs. 240 more than Wednesday
- ☐ B. Bar for boxes: 37.5% Jalebi; Pie for days: Thursday, Rs. 240 more than Wednesday
- ☐ C. Pie for boxes: 30% Jalebi; Bar for days: Thursday, Rs. 240 more than Wednesday
- ☐ D. Pie for boxes: 37.5% Jalebi; Bar for days: Tuesday, Rs. 130 more than Wednesday

Q24. Anaya's pie chart shows Monday and Tuesday slices that look almost the same size. What is the best next step, and why?



- ☐ A. Keep the pie chart — slices that look similar are always equal
- ☐ B. Add more colours to the pie so the slices look different
- ☐ C. Switch to a bar chart, because bars make small differences easy to compare with a scale
- ☐ D. Delete Monday's data, since it is clearly the smaller one

Q25. Which situation would make a pie chart genuinely misleading, even though the numbers are correct?

- ☐ A. Showing four sweets' share of one stall's 40 boxes
- ☐ B. Showing how a class of 30 students split across four favourite sports
- ☐ C. Showing four students' unrelated exam scores from different subjects, as if they were parts of one whole
- ☐ D. Showing how a household's monthly budget splits across rent, food, travel and savings

Q26. A fifth day, Friday, is added: Rs. 390. Anaya redraws the days pie chart. What is Friday's new percentage share of the five-day total, rounded to the nearest whole number?

- ☐ A. 34%, from $390 \div 1150$ — forgetting to add Friday into the new whole
- ☐ B. 48%, from $390 \div 810$ — comparing Friday only against Thursday
- ☐ C. 25%, from $390 \div 1540$ — the new five-day total
- ☐ D. 39% — reading the rupee figure as a percentage

Q27. A pie chart of the four sweets shows Kaju Katli's slice as clearly the smallest, at 10%. Someone claims this means Kaju Katli sold the fewest boxes of any sweet ever sold at the school, all year. Is this a fair conclusion?



- ☐ **A.** Yes — the pie chart proves it for the whole year
- ☐ **B.** Yes — the smallest slice is always the smallest amount everywhere
- ☐ **C.** No — pie charts can only ever describe one single day, never a whole stall
- ☐ **D.** No — the chart only describes this one stall's 40 boxes, not every sale all year

Q28. Someone claims that because pie slices must add to 100%, you could work out the percentage for any one day just by looking at its slice, without ever knowing the actual rupee total. Is this true for reading it precisely?

- ☐ **A.** Yes — the total is never needed to read a percentage accurately
- ☐ **B.** No — you still need the true total to calculate each slice's exact percentage; the slice alone gives only a rough impression
- ☐ **C.** Yes — Google Sheets writes the total inside every slice automatically
- ☐ **D.** No — pie charts cannot show percentages at all, only bar charts can

Q29. If the Monday and Tuesday takings were swapped (Monday becomes Rs. 310, Tuesday becomes Rs. 240), would the bar chart still show the same overall shape of 'Thursday highest, Wednesday lowest'? Explain.

- ☐ **A.** No — swapping Monday and Tuesday changes which day earned the most overall
- ☐ **B.** No — the total for the week would change
- ☐ **C.** Yes, but Wednesday would no longer be the lowest
- ☐ **D.** Yes — Thursday is still highest and Wednesday still lowest; only Monday and Tuesday trade places

Q30. Anaya has both charts ready for the assembly display: pie of boxes, bar of daily money. A visitor asks, 'Which single sweet earned the school the most money?' Can either chart answer this directly?

- ☐ **A.** Yes — the pie chart already answers it, because Jalebi has the biggest slice
- ☐ **B.** No — neither chart shows money earned per sweet; a new table and chart would be needed
- ☐ **C.** Yes — the bar chart already answers it, because Thursday is the tallest bar
- ☐ **D.** Yes — multiply the biggest slice by the tallest bar to get the answer

Answer Key

Q1: (D) (d) Pie chart. Bar and column charts in (a) and (b) both compare separate amounts; neither one tells you what share of a total each amount is.

Q2: (A) (a) Insert. Data in (b) is the tempting one, because the chart is made out of your data — but the Data menu is for sorting and filtering; adding something new to the sheet is Insert.

Q3: (B) (b) 100%. Every slice is a share of the same whole, so however many slices there are, they always add back up to the full 100% that whole represents.

Q4: (C) (c) comparing separate amounts. Option (a) describes a pie chart — bars can be labelled with percentages, but their real strength is showing which amount is bigger and by how much.

Q5: (B) (b) The Chart editor. It opens after Insert  Chart, and that side panel is where the chart type itself gets picked — Insert only starts the process, it doesn't choose the type.

Q6: (B) (b) Its share of the total. A slice worth 37.5% of the whole is drawn 37.5% of the way around the circle — nothing about colour, order or label length changes its size.

Q7: (A) (a) The scale of numbers along the axis. Each bar's height is judged against that scale, which is exactly how Anaya could see Thursday's bar towering over the rest.

Q8: (D) (d) Slices of nearly equal size are hard to compare. That is exactly what happened to Anaya's Monday and Tuesday slices — she could not tell which was bigger just by looking.

Q9: (D) (d) Exactly how much bigger one amount is than another. Bars stand against a scale, so a gap between two bars can be measured — two similar pie slices give no such easy measurement.

Q10: (C) (c) Boxes sold of four sweets from one stall. All four sweets together make up the whole stall's 40 boxes; the other options are just separate amounts with no shared whole.

Q11: (B) (b) 37.5%, because $15 \div 40 = 0.375$. Option (a) 15% is the trap — it just repeats the number of boxes, but a percentage has to be worked out against the total of 40.

Q12: (C) (c) A pie chart, and $180 \div 1150 \approx 16\%$. Option (d) 43% comes from dividing by Thursday's Rs. 420 instead of the true four-day total of Rs. 1150 — always divide by the whole, not one part.

Q13: (A) (a) 10%, and it is the smallest slice, because 4 is the smallest of 12, 9, 15 and 4. Option (c) is the near-miss: 4% simply copies the box count instead of dividing 4 by 40.

Q14: (D) (d) A bar chart, and the answer is $310 - 240 = \text{Rs. } 70$. The Rs. 550 in (a) and (c) is what you get by adding the two days instead of subtracting — the question asks how much more, not how much altogether.

Q15: (D) (d) Changing the chart type to a bar chart. That is exactly what Ms. Rao had Anaya do — the data did not need fixing, the chart type did, because the question was about size, not share.

Q16: (A) (a) 30%, because $12 \div 40 = 0.3$. Option (b) 12% is the same trap as always — copying the box count straight across instead of dividing it by the total.

Q17: (A) (a) Thursday, by Rs. 110 — it earned Rs. 420, and the next tallest bar is Tuesday at Rs. 310, and $420 - 310 = 110$. Option (b)'s Rs. 70 is Tuesday's gap over Monday, a different

pair of bars.

Q18: (B) (b) 32.5%, from $(9 + 4) \div 40 = 13 \div 40$. Option (a) 22.5% is only Barfi's own share — it forgets to add Kaju Katli's 10% in as well.

Q19: (C) (c) 67.5%, from $(12 + 15) \div 40 = 27 \div 40$. Option (a) 27% again just copies the combined box count instead of dividing it by the stall's total of 40.

Q20: (D) (d) Monday, by Rs. 60, from $240 - 180$. Option (b)'s Rs. 420 confuses the gap with Thursday's total takings — always subtract the two bars actually named in the question.

Q21: (A) (a) 37%. The whole is $240 + 310 + 180 + 420 = 1150$, and $420 \div 1150 = 0.3652$, which is 36.52%, rounding up to 37 — option (b)'s 36% is the same division with the rounding stopped one step too early.

Q22: (B) (b) She is wrong for two real reasons: a pie only makes sense when the parts genuinely add up to one whole, and slices of nearly equal size are very hard to compare — a bar chart shows the size of a gap that a pie hides.

Q23: (A) (a) Pie for the boxes (Jalebi is $15 \div 40 = 37.5\%$) and bar for the days (Thursday earned most at Rs. 420, which is $420 - 180 =$ Rs. 240 more than Wednesday). Option (b) swaps the two chart types; (d) names the wrong day.

Q24: (C) (c) Switch to a bar chart. This is exactly what happened in the story — the pie could not show whether Monday or Tuesday was bigger, but the bar chart made the Rs. 70 gap obvious at once.

Q25: (C) (c) Unrelated exam scores are not shares of a single whole at all, so forcing them into a pie implies a relationship — 'these add up to something' — that does not really exist, unlike (a), (b) and (d), which are all genuine wholes split into parts.

Q26: (C) (c) 25%. Adding Friday changes the whole itself: $1150 + 390 = 1540$, and $390 \div 1540 = 0.2532$, which rounds to 25%. Every new slice changes what every other slice's percentage means too.

Q27: (D) (d) No. The pie only tells you about the 40 boxes it was drawn from — one stall, one day. It says nothing at all about sales on any other day or at any other stall.

Q28: (B) (b) No, not precisely. Judging by eye only tells you roughly how big a slice looks; the real percentage — like Thursday's exact 36.52% — only comes from dividing by the true total.

Q29: (D) (d) Yes. Thursday (Rs. 420) and Wednesday (Rs. 180) never changed, so the tallest and shortest bars stay exactly where they were — only the two middle bars, Monday and Tuesday, swap order.

Q30: (B) (b) No. The pie chart shows boxes sold per sweet, and the bar chart shows money per day — neither one holds money-per-sweet data, so a new table linking sweet to money would be needed.

You've got this! Keep learning and shining! - Ruchi Math Coaching