Choosing displays and spotting misleading data worksheet – Grade 8

Grade 8 · Mixed level · 20 questions · **Version X1639**

Name: _____ Date: _____ Score: ___ / 20

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1. Which display is best for testing whether height is related to arm span?
   A. Box plot **B.** Scatter plot **C.** Line graph **D.** Histogram **E.** Circle graph

2. What would you use for showing how a budget is divided?
   A. Box plot **B.** Scatter plot **C.** Line graph **D.** Histogram **E.** Circle graph

3. Pick the best display: testing whether height is related to arm span.
   A. Box plot **B.** Scatter plot **C.** Line graph **D.** Histogram **E.** Circle graph

4. What would you use for comparing the spread of marks in two classes?
   A. Box plot **B.** Scatter plot **C.** Line graph **D.** Histogram **E.** Circle graph

5. Which display is best for seeing whether study time is linked to marks?
   A. Box plot **B.** Scatter plot **C.** Line graph **D.** Histogram **E.** Circle graph

6. Which display is best for grouping 300 ages into intervals?
   A. Box plot **B.** Scatter plot **C.** Line graph **D.** Histogram **E.** Circle graph

7. What would you use for showing the share of each type of energy used?
   A. Box plot **B.** Scatter plot **C.** Line graph **D.** Histogram **E.** Circle graph

8. A 3D pie chart tilts so the front sector looks bigger. Why is that misleading?
   A. Equal percents no longer look equal **B.** Pie charts cannot be used
   C. It has too few sectors **D.** Nothing

9. A graph has no labels on its axes. What is the problem?
   A. You cannot tell what is measured **B.** It is too colourful **C.** It has too many numbers
   D. Nothing

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10. Sales go from 180 to 200. A graph makes this look like doubling. What is the real percent increase, to the nearest percent?

    Answer: _____

11. A bar graph's scale starts at 60. What effect does that have?

    A. Differences look larger **B.** Differences look smaller **C.** Nothing changes

    D. The bars become equal

12. Bars show 41 and 43, on a scale starting at 40. How many times as tall does the second bar look?

    Answer: _____

13. A line graph spaces 2020, 2021, 2023 and 2024 equally. What is wrong?

    A. The time steps are not equal **B.** It has four points **C.** It starts in 2020 **D.** Nothing

14. Sales go from 180 to 220. A graph makes this look like doubling. What is the real percent increase, to the nearest percent?

    Answer: _____

15. An ad says a price dropped 50% after rising 50%. Starting from 100 dollars, what is the final price, in dollars?

    Answer: $_____

16. A company reports the mean salary, and one boss earns far more than the rest. Which is the fairer average?

    A. The median **B.** The mean **C.** The maximum **D.** The range

17. Why might a percent be better than a count when comparing two towns?

    A. The towns may have different populations **B.** Percents are always larger

    C. Counts cannot be compared **D.** Percents have no units

18. A report shows only the last 5 months, when sales went up, and hides a long drop before. What is this called?

    A. Leaving out data **B.** A random sample **C.** A fair summary **D.** A line of best fit

19. Sales rose from 200 to 1000. A picture of a bag is drawn 5 times as tall and 5 times as wide. How many times as big does the area look?

    Answer: _____

20. A report shows only the last 2 months, when sales went up, and hides a long drop before. What is this called?

    A. Leaving out data **B.** A random sample **C.** A fair summary **D.** A line of best fit

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Answer key · Version X1639

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1. **B (Scatter plot)**
2. **E (Circle graph)**
3. **B (Scatter plot)**
4. **A (Box plot)**
5. **B (Scatter plot)**
6. **D (Histogram)**
7. **E (Circle graph)**
8. **A (Equal percents no longer look equal)**
9. **A (You cannot tell what is measured)**
10. **11%**
11. **A (Differences look larger)**
12. **3**
13. **A (The time steps are not equal)**
14. **22%**
15. **75**
16. **A (The median)**
17. **A (The towns may have different populations)**
18. **A (Leaving out data)**
19. **25**
20. **A (Leaving out data)**

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