Scatter plots: trends, outliers and predictions worksheet – Grade 8

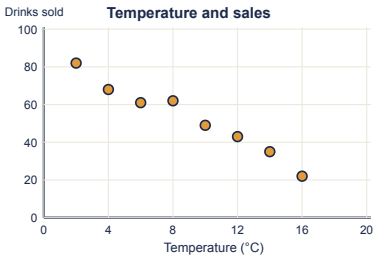
Grade 8 · Mixed level · 20 questions · **Version X2879**

Name: _____ Date: _____ Score: ___ / 20

Scan to check answers + earn stars

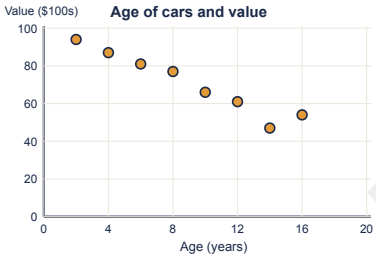
Done the worksheet? Scan the code (or enter version X2879 on this skill's page at themathmeridian.com) to check your answers online and earn stars.

1. As temperature (°c) increases, what happens to drinks sold?



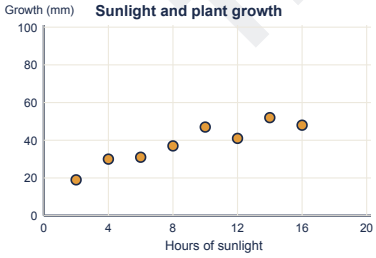
A. It tends to increase **B.** It tends to decrease **C.** It stays the same

2. As age (years) increases, what happens to value ($100s)?



A. It tends to increase **B.** It tends to decrease **C.** It stays the same

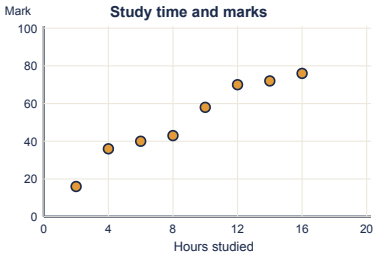
3. As hours of sunlight increases, what happens to growth (mm)?



A. It tends to increase **B.** It tends to decrease **C.** It stays the same

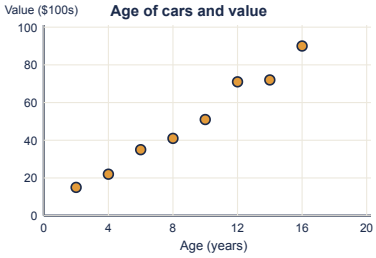
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4. What kind of association does this scatter plot show?



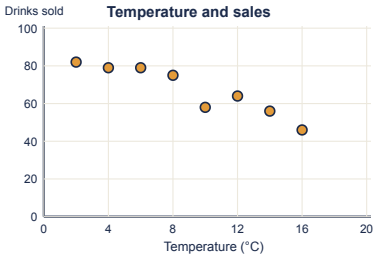
A. Positive **B.** Negative **C.** None

5. How many points are on this scatter plot?



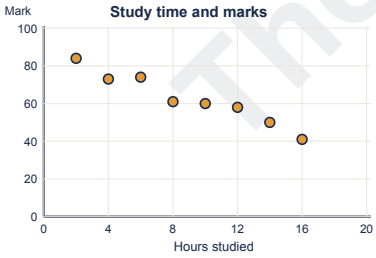
Answer: _____

6. Which word describes the pattern of the points?



A. Linear **B.** No pattern

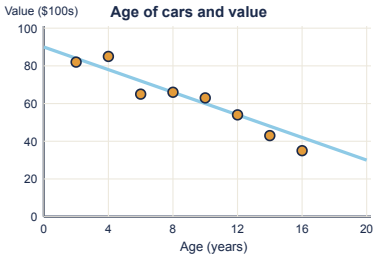
7. As hours studied increases, what happens to mark?



A. It tends to increase **B.** It tends to decrease **C.** It stays the same

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8. The line of best fit is y = -3x + 90. Predict y when x = 5.



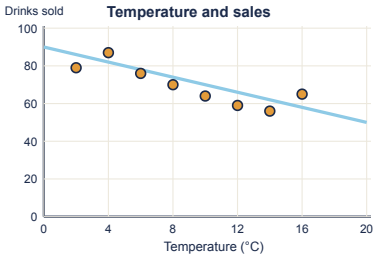
Answer: _____

9. What is an outlier on a scatter plot?

A. A point far from the trend **B.** The first point **C.** The highest point

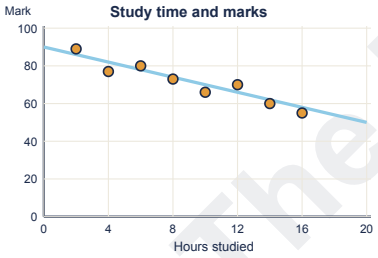
D. Any point on the line

10. Using y = -2x + 90, what is the value of y when x = 0?



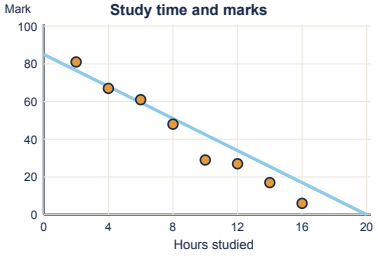
Answer: _____

11. Using y = -2x + 90, by how much does y change when x goes up by 2? Use a minus sign for a drop.



Answer: _____

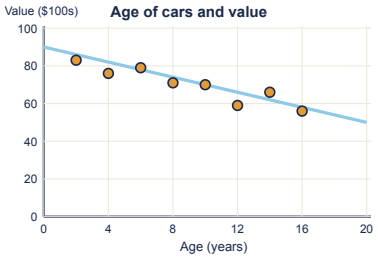
12. Using y = -5x + 85, what is the value of y when x = 0?



Answer: _____

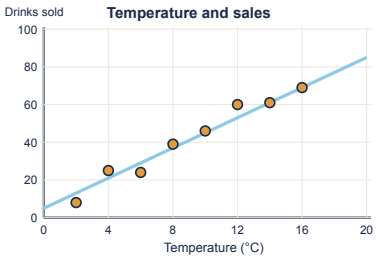
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13. The line of best fit is y = -2x + 90. Predict y when x = 5.



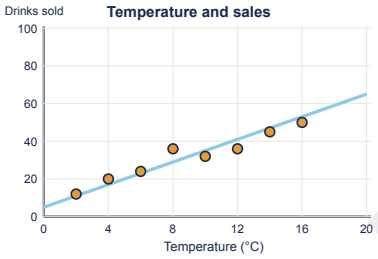
Answer: _____

14. Using y = 4x + 5, by how much does y change when x goes up by 2? Use a minus sign for a drop.



Answer: _____

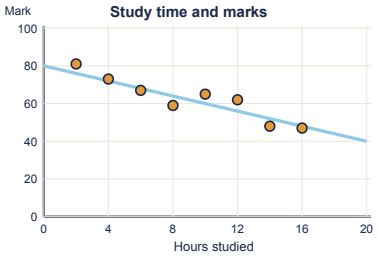
15. Why is predicting far beyond the data, such as x = 24, risky?



A. The trend may not continue **B.** The line stops existing **C.** It always gives zero

D. Predictions must be whole numbers

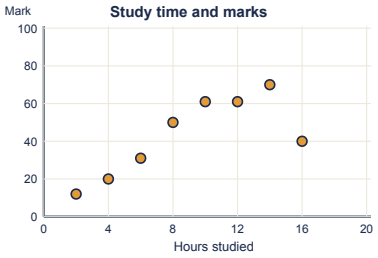
16. A point is at x = 11 and y = 64. The line is y = -2x + 80. What is the residual (actual minus predicted)?



Answer: _____

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17. Which x-value has the outlier on this scatter plot?



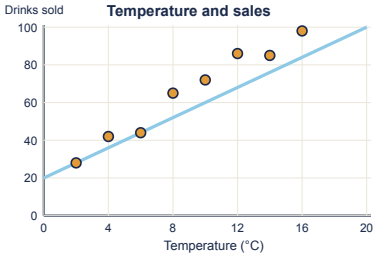
Answer: _____

18. Ice-cream sales and sunburns both rise in summer. What does this show?

A. Correlation, not causation **B.** Ice cream causes sunburn

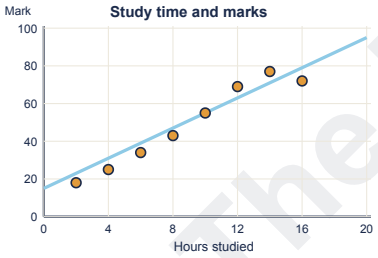
C. Sunburn causes ice-cream sales **D.** No association

19. A point is at x = 12 and y = 86. The line is y = 5x + 20. What is the residual (actual minus predicted)?



Answer: _____

20. Why is predicting far beyond the data, such as x = 33, risky?



A. The trend may not continue **B.** The line stops existing **C.** It always gives zero

D. Predictions must be whole numbers

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Answer key · Version X2879

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1. **B (It tends to decrease)**
2. **B (It tends to decrease)**
3. **A (It tends to increase)**
4. **A (Positive)**
5. **8**
6. **A (Linear)**
7. **B (It tends to decrease)**
8. **75**
9. **A (A point far from the trend)**
10. **90**
11. **-4**
12. **85**
13. **80**
14. **8**
15. **A (The trend may not continue)**
16. **6**
17. **16**
18. **A (Correlation, not causation)**
19. **6**
20. **A (The trend may not continue)**

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