

CTB/McGraw-Hill

Grade 7 Benchmark 1 Math

Test ID: 76842

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Test Directions

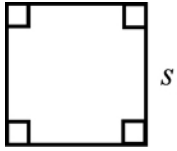
General Offline Instructions:

Today you will take the Acuity test. Read each question carefully and decide which answer is correct. Using your scan sheet, fill in the bubble that contains the letter for the answer you choose.

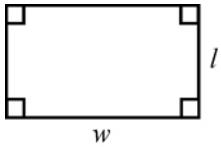
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Reference Sheet

You may use calculator π or the number 3.14

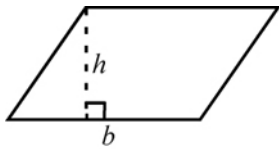


$$A = s \times s$$

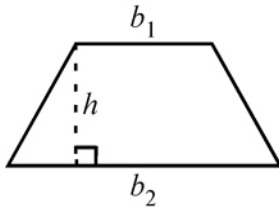


$$P = 2l + 2w$$

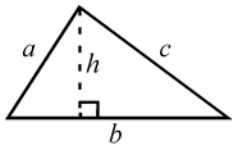
$$A = lw$$



$$A = bh$$

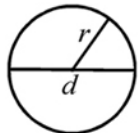


$$A = \frac{1}{2}h(b_1 + b_2)$$



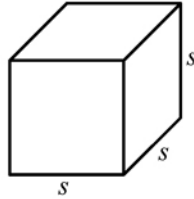
$$P = a + b + c$$

$$A = \frac{1}{2}bh$$



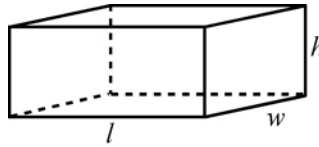
$$C = 2\pi r$$

$$A = \pi r^2$$



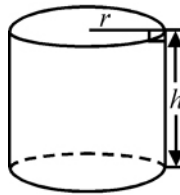
$$SA = 6s^2$$

$$V = s \times s \times s$$

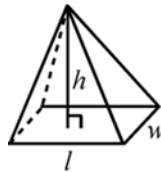


$$SA = 2lw + 2lh + 2wh$$

$$V = lwh$$



$$V = \pi r^2 h$$



$$V = \frac{1}{3}lwh$$

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Customary Conversions:

1 yard (yd) = 3 feet (ft)

1 foot = 12 inches (in.)

1 pound (lb) = 16 ounces (oz.)

1 gallon (gal) = 4 quarts (qt)

1 quart = 2 pints (pt)

1 pint = 2 cups (c)

1 cup = 8 fluid ounces

1 day = 24 hours (hr)

1 hour = 60 minutes (min)

1 minute = 60 seconds (sec)

Metric Conversions:

1 kilometer = 1000 meters

1 hectometer = 100 meters

1 dekameter = 10 meters

1 meter

1 decimeter = 0.1 meter

1 centimeter = 0.01 meter

1 millimeter = 0.001 meter

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1. Which of these is the best estimate of $6,985 \div 492$?

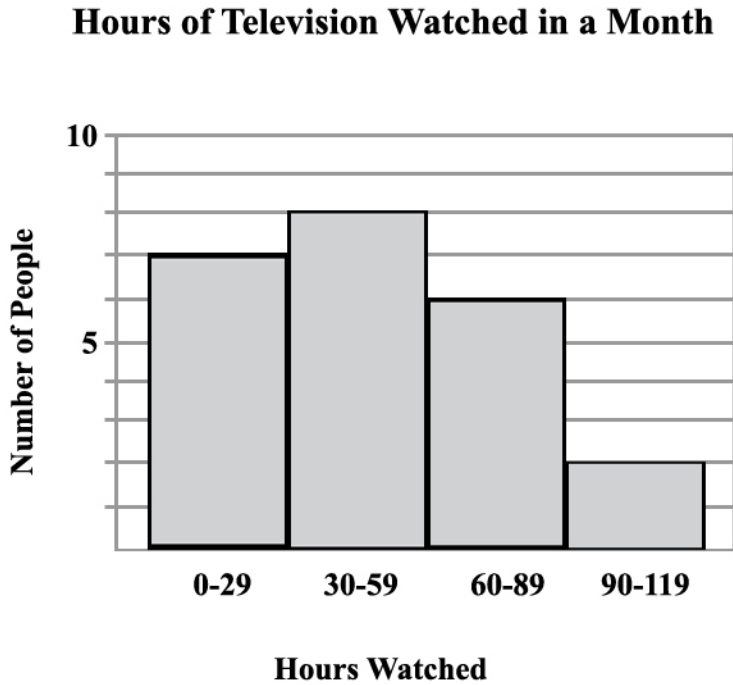
- A 15.5
- B 14
- C 17.5
- D 15

2. Sarah wants to buy a t-shirt that was originally \$9.50 and has now been discounted 20%. What is the total amount of the discount she will receive?

- A \$1.90
- B \$2.00
- C \$7.50
- D \$7.60

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3. Lucy studied the total number of hours some people spent watching television for a month. Look at this histogram showing the number of people who watched television for different amounts of time.



According to the histogram, which of these statements is true?

- A 29 people watched television for 0 to 7 hours
- B 59 people watched television for 0 to 8 hours
- C 15 people watched television for 0 to 59 hours
- D 7 people watched television for 60 to 119 hours

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4. Look at this number pattern.

$$\frac{3}{4}, \frac{9}{12}, \frac{15}{20}, \frac{21}{28}$$

Which of these fractions comes next in the pattern?

A $\frac{21}{28}$

B $\frac{21}{36}$

C $\frac{27}{36}$

D $\frac{27}{28}$

5. Which of these shows the numbers in order from least to greatest?

A -38, 45, -47, 52

B -38, -47, 45, 52

C -47, -38, 45, 52

D 52, -47, 45, -38

6. Which description describes how to get the next number in the pattern?

80, 40, 20, 10, 5, ...

A Multiply the previous number by 2.

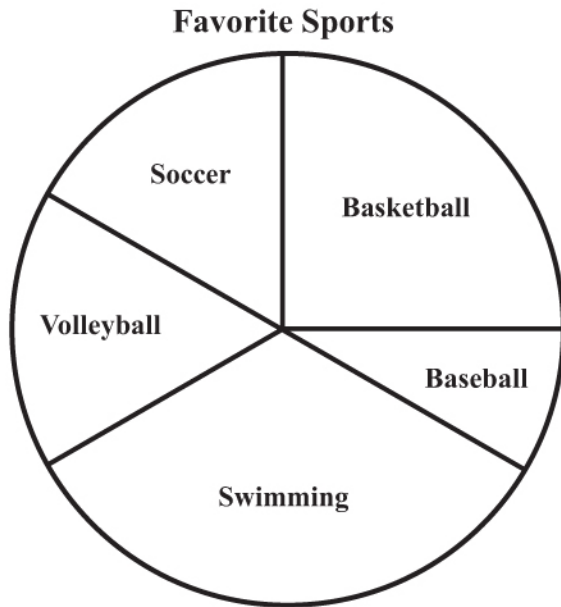
B Divide the previous number by 2.

C Subtract 40 from the previous number.

D Divide the previous number by 4.

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7. Look at this circle graph. Students in a class voted on which sport was their favorite.



Which of these is true about the graph?

- A Half of the students chose swimming as their favorite sport.
 - B Half of the students chose basketball as their favorite sport.
 - C A third of the students chose basketball as their favorite sport.
 - D A third of the students chose swimming as their favorite sport.
8. Marla took a survey of the heights of her friends and listed the results, in inches, below.

55, 52, 48, 50, 47, 48

What is the range of her friends' heights?

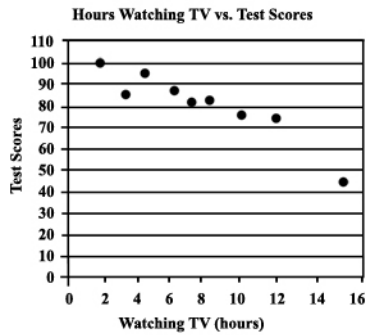
- A 50
- B 48
- C 8
- D 7

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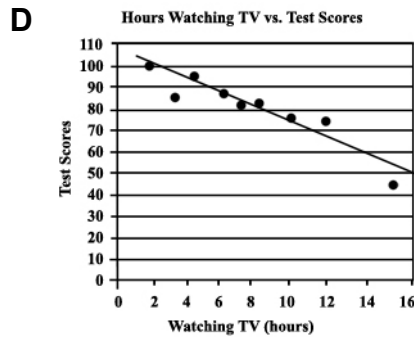
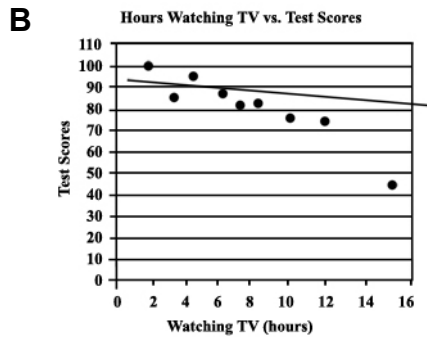
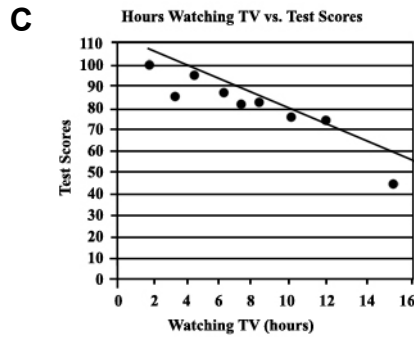
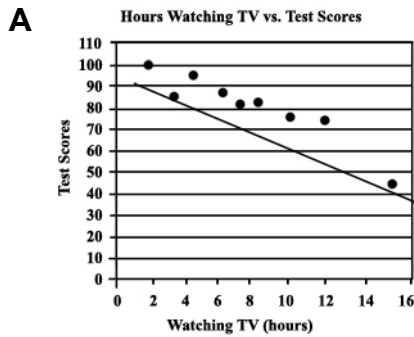
9. Zach spent \$2.25 on grapefruits, \$2.43 on bananas, \$1.52 on mangoes, and \$2.08 on kiwi fruits. If he bought 3 grapefruits, 9 bananas, 4 mangoes, and 8 kiwi fruits, then which item has the **lowest** unit cost?

- A bananas
- B mangoes
- C kiwi fruit
- D grapefruits

10. Look at the scatter plot.

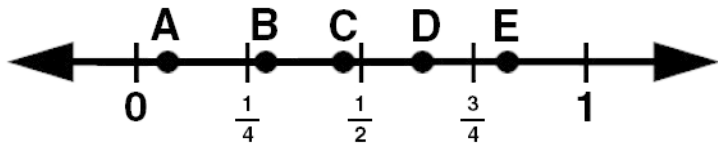


Which of these graphs shows the line of best fit?



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11. Look at the number line.



Which point on the number line is at 0.82?

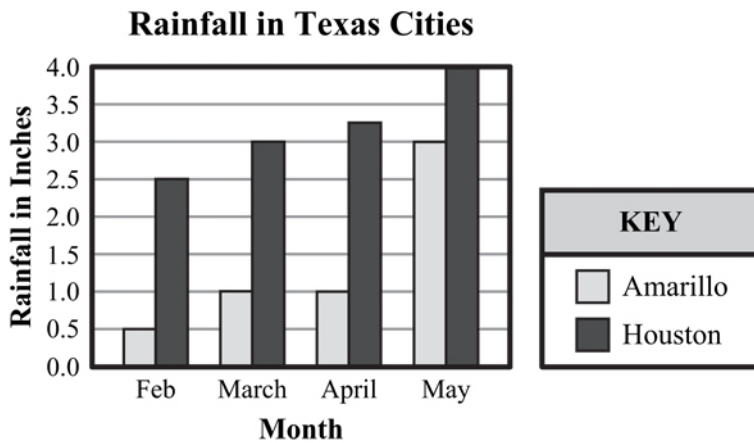
- A Point D
- B Point A
- C Point E
- D Point C

12. Carmen earns \$79.78 an hour. About how much money will Carmen earn if she works 7.81 hours?

- A \$490
- B \$640
- C \$90
- D \$800

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13. Look at this double bar graph showing the average rainfall in Amarillo and Houston during February, March, April, and May.



During which month did Houston have an average rainfall of 3 inches?

- A February
 - B March
 - C April
 - D May
14. Which of these shows the numbers in order from least to greatest?

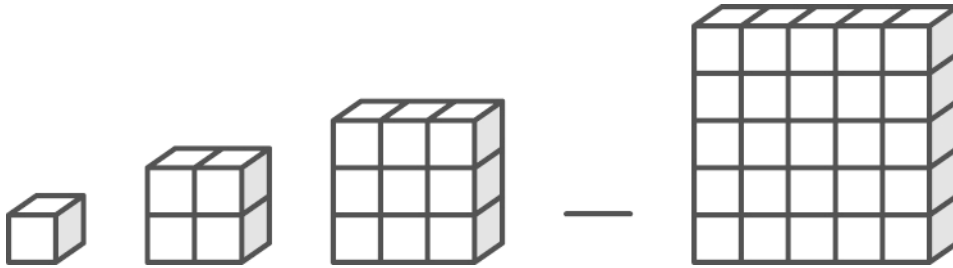
A $1, 1.42, \frac{2}{5}, \frac{7}{4}$

B $\frac{2}{5}, 1, \frac{7}{4}, 1.42$

C $\frac{2}{5}, 1, 1.42, \frac{7}{4}$

D $\frac{2}{5}, \frac{7}{4}, 1, 1.42$

15. Look at this pattern of shapes.



Which number of cubes goes in the blank to complete this pattern?

- A 24
- B 36
- C 16
- D 10

16. The data set shows the price of a drill at 8 different hardware stores.

\$40, \$42, \$28, \$32, \$38, \$43, \$38, \$43

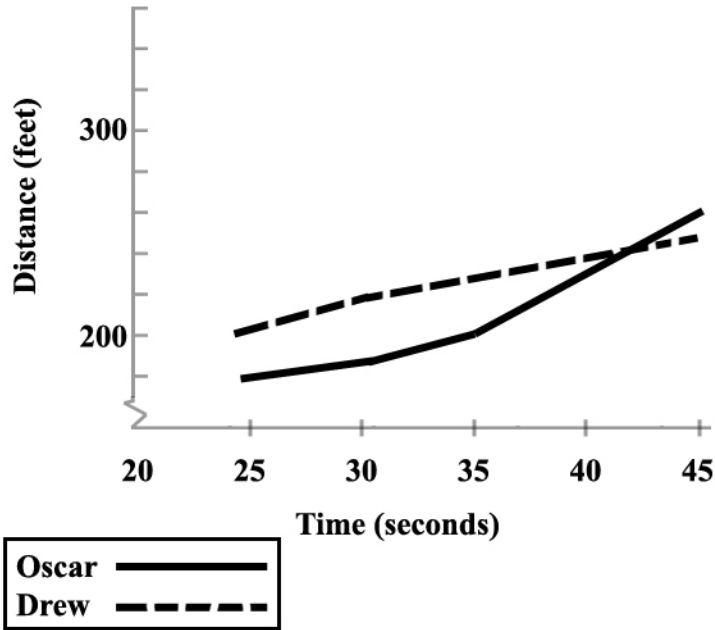
Which of these is the median for this set of data?

- A \$39
- B \$15
- C \$35
- D \$38

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17. Look at this double line graph representing the race times and distances run by Oscar and Drew.

Oscar's and Drew's Races



Which of these statements is true, according to the graph?

- A After 45 seconds, Oscar was ahead of Drew.
 - B After 45 seconds, Drew was ahead of Oscar.
 - C After 35 seconds, Oscar was ahead of Drew.
 - D After 35 seconds, Oscar and Drew were tied.
18. Janet is buying batteries for her radio. She can buy 4 batteries for \$1.92, 8 batteries for \$3.76, 12 batteries for \$6.36, or 2 batteries for \$1.96. Which is the lowest cost per battery?
- A 4 batteries for \$1.92
 - B 2 batteries for \$1.96
 - C 12 batteries for \$6.36
 - D 8 batteries for \$3.76

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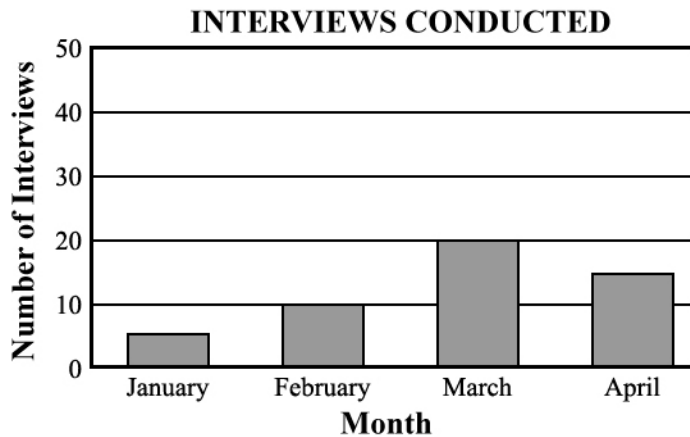
19. This data shows the number of books different students read during summer vacation.

9, 9, 3, 1, 5, 6, 9

Which statement about the set of data is true?

- A The mode is equal to the mean.
- B The mean is equal to the median.
- C The mode is equal to the median.
- D The mode, median, and mean are all equal.

20. Look at the graph.



Based on the information in the bar graph, which of these conclusions can be drawn?

- A The company conducted more interviews in March than in February and April combined.
- B The company conducted more interviews in April than in January and February combined.
- C The company conducted 4 times as many interviews in March as they conducted in January.
- D The company conducted exactly twice as many interviews in April as they conducted in January.

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21. The data shown represents the homework grades of a student in a math class.

0, 80, 70, 0, 80, 80, 70, 0, 80, 60

Which of these measures of central tendency is the best indicator of the student's overall performance?

- A mean
- B median
- C mode
- D range

22. This stem-and-leaf plot shows the grades for Mrs. Madrid's math test.

**Grades for Mrs. Madrid's
Math Test**

Stem	Leaves
7	3 3 4 8 9
8	0 3 6 6 6 7 9
9	1 3 4 8 9 9

Which of these statements is true according to the stem-and-leaf plot?

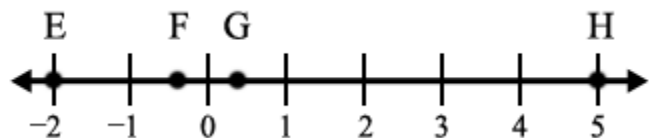
- A Most students scored a 99 on the test.
- B Most students scored an 86 on the test.
- C Most students scored over 80 on the test.
- D Most students scored in the 70s on the test.

23. Aaron purchased a new graphing calculator for a total of \$80. He had to pay 7.38% in tax. How much of the total did Aaron pay in taxes?

- A \$5.90
- B \$6.00
- C \$7.38
- D \$10.04

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24. Which point shows $-\frac{2}{5}$ on the number line?



- A E
 - B F
 - C G
 - D H
25. Ms. Collins brought in prizes for the students who had the top scores on yesterday's math quiz. If she has enough to award half the class, which score should she use for the cutoff?
- A the mean
 - B the mode
 - C the range
 - D the median

This is the end of the test.