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Unit 8, Lesson 1: Got Data?

1. Tyler asked 10 students at his school how much time in minutes it takes them to get from home to school. Determine if each of these dot plots could represent the data Tyler collected. Explain your reasoning for each dot plot.

dot plot 1

dot plot 2

dot plot 3

dot plot 4
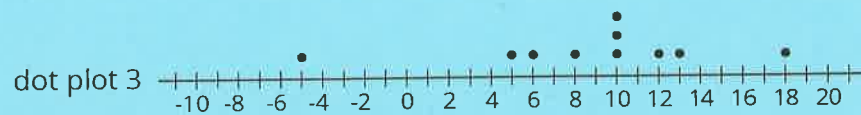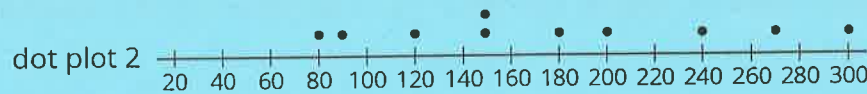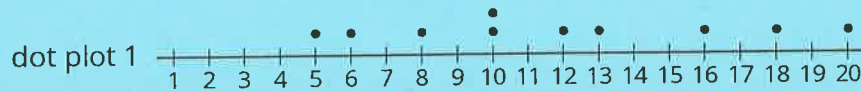
2. Here is a list of questions. For each question, decide if the responses will produce numerical data or categorical data and give two possible responses.

   a. What is your favorite breakfast food?

   b. How did you get to school this morning?

   c. How many different teachers do you have?

   d. What is the last thing you ate or drank?

   e. How many minutes did it take you to get ready this morning—from waking up to leaving for school?

3.   a. Write two questions that you could ask the students in your class that would result in categorical

data. For each question, explain how you know that responses to it would produce categorical data.

b. Write two questions that you could ask the students in your class that would result in numerical data. For each question, explain how you know that responses to it would produce numerical data.

4. Triangle DEF has vertices $D = (-4, -4)$, $E = (-2, -4)$, and $F = (-3, -1)$.
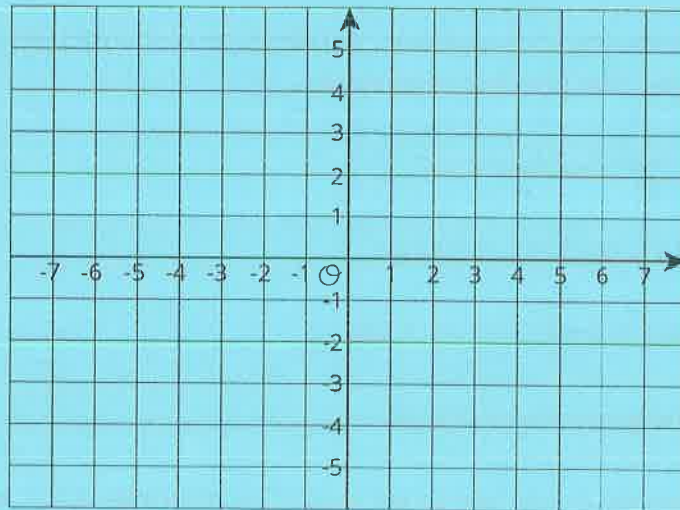
a. Plot the triangle in the coordinate plane and label the vertices.

c. What is the area of the triangle? Show your reasoning.

b. Name the coordinates of 3 points that are inside the triangle.

(from Unit 7, Lesson 15)

Unit 8, Lesson 2: Statistical Questions

1. Sixth-grade students were asked, "What grade are you in?" Explain why this is *not* a statistical question.

2. Lin and her friends went out for ice cream after school. The following questions came up during their trip. Select **all** the questions that are statistical questions.

   A. How far are we from the ice cream shop?
   B. What is the most popular ice cream flavor this week?
   C. What does a group of 4 people typically spend on ice cream at this shop?
   D. Do kids usually prefer to get a cup or a cone?
   E. How many toppings are there to choose from?

3. Here is a list of questions about the students and teachers at a school. Select **all** the questions that are statistical questions.

   A. What is the most popular lunch choice?
   B. What school do these students attend?
   C. How many math teachers are in the school?
   D. What is a common age for the teachers at the school?
   E. About how many hours of sleep do students generally get on a school night?
   F. How do students usually travel from home to school?

4. Here is a list of statistical questions. What data would you collect and analyze to answer each question? For numerical data, include the unit of measurement that you would use.

   a. What is a typical height of female athletes on a team in the most recent international sporting event?

   b. Are most adults in the school football fans?

   c. How long do drivers generally need to wait at a red light in Washington, DC?

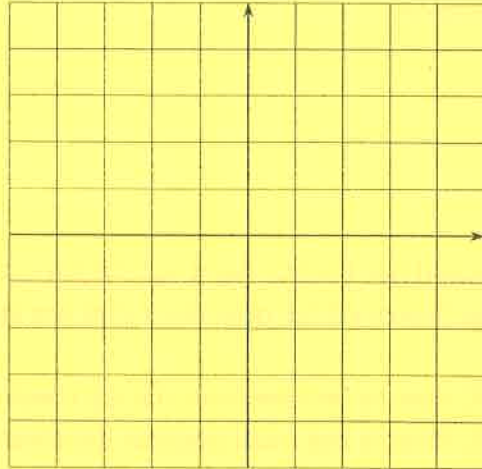NAME   DATE   PERIOD

5. Describe the scale you would use on the coordinate plane to plot each set of points. What value would you assign to each unit of the grid?

   a. $(1, -6), (-7, -8), (-3, 7), (0, 9)$

   b. $(-20, -30), (-40, 10), (20, -10), (5, -20)$

   c. $(\frac{-1}{3}, -1), (\frac{2}{3}, -1\frac{1}{3}), (\frac{-4}{3}, \frac{2}{3}), (\frac{1}{6}, 0)$

(from Unit 7, Lesson 13)

6. Noah's water bottle contains more than 1 quart of water but less than $1\frac{1}{2}$ quarts. Let w be the amount of water in Noah's bottle, in quarts. Select **all** the true statements.

   A. w could be $\frac{3}{4}$.
   B. w could be 1.
   C. $w > 1$
   D. w could be $\frac{4}{3}$.
   E. w could be $\frac{5}{4}$.
   F. w could be $\frac{5}{3}$.
   G. $w > 1.5$

(from Unit 7, Lesson 9)

7. Order these numbers from least to greatest:

   $|-17|$ $|-18|$ -18 $|19|$ 20
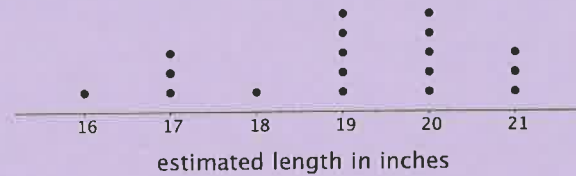
(from Unit 7, Lesson 7)

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Unit 8, Lesson 3: Representing Data Graphically

1. A teacher drew a line segment that was 20 inches long on the blackboard. She asked each of her students to estimate the length of the segment and used their estimates to draw this dot plot.

estimated length in inches

 a. How many students were in the class?

 b. Were students generally accurate in their estimates of the length of the line? Explain your reasoning.

2. Here are descriptions of data sets. Select **all** descriptions of data sets that could be graphed as dot plots.

 A. Class size for the classes at an elementary school
 B. Colors of cars in a parking lot
 C. Favorite sport of each student in a sixth-grade class
 D. Birth weights for the babies born during October at a hospital
 E. Number of goals scored in each of 20 games played by a school soccer team

3. Priya recorded the number of attempts it took each of 12 of her classmates to successfully throw a ball into a basket. Make a dot plot of Priya's data.

1	2	1	3	1	4	4	3	1	2	5	2

4. Solve each equation.

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a. $9v = 1$ d. $12.1 = 12.1 + y$

b. $1.37w = 0$ e. $\frac{3}{5} + z = 1$

c. $1 = \frac{7}{10}x$

(from Unit 6, Lesson 4)

5. Find the quotients.

a. $\frac{2}{5} \div 2$ c. $2 \div \frac{2}{5}$
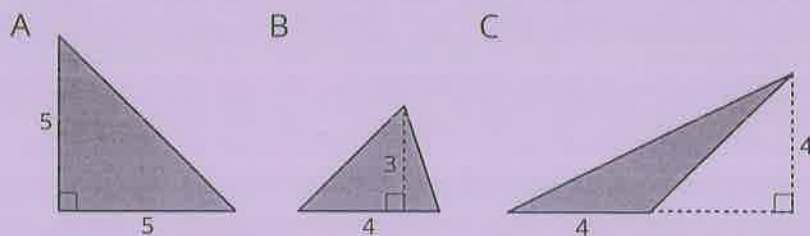
b. $\frac{2}{5} \div 5$ d. $5 \div \frac{2}{5}$

(from Unit 4, Lesson 11)

6. Find the area of each triangle.

(from Unit 1, Lesson 9)

Unit 8, Lesson 4: Dot Plots

1. Clare recorded the amounts of time spent doing homework, in hours per week, by students in sixth, eighth, and tenth grades. She made a dot plot of the data for each grade and provided the following summary.

   o Students in sixth grade tend to spend less time on homework than students in eighth and tenth grades.
   o The homework times for the tenth-grade students are more alike than the homework times for the eighth-grade students.

   Use Clare's summary to match each dot plot to the correct grade (sixth, eighth, or tenth).

   A

   B

   C

   time in hours
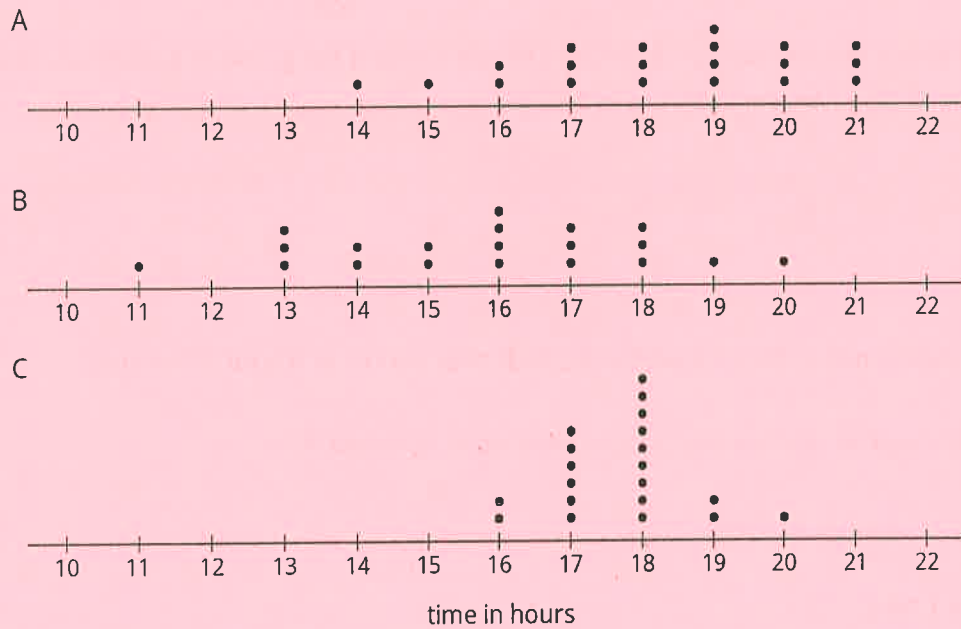
2. Mai played 10 basketball games. She recorded the number of points she scored and made a dot plot. Mai said that she scored between 8 and 14 points in most of the 10 games, but one game was exceptional. During that game she scored more than double her typical score of 9 points. Use the number line to make a dot plot that fits the description Mai gave.
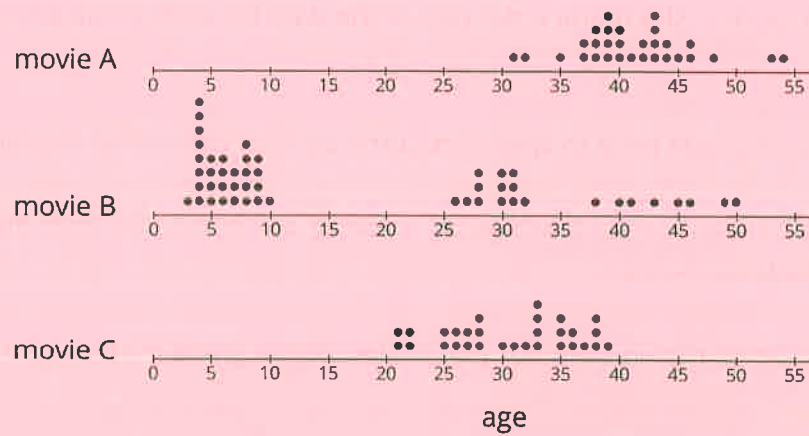
   points
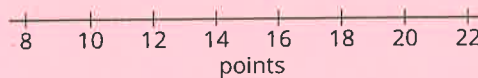
3. A movie theater is showing three different movies. The dot plots represent the ages of the people who were at the Saturday afternoon showing of each of these movies.

a. One of these movies was an animated movie rated G for general audiences. Do you think it was Movie A, B, or C? Explain your reasoning.

b. Which movie has a dot plot with ages that that center at about 30 years?

c. What is a typical age for the people who were at Movie A?

4. Find the value of each expression.

a. $3.727 + 1.384$

b. $3.727 - 1.384$

c. $5.01 \cdot 4.8$

d. $5.01 \div 4.8$

(from Unit 5, Lesson 13)