1. Count to find the area of the shape. Tell if the area is exact or an estimate.

☐ = 1 unit square

3. Kaitlin says that the figure below has an area of 6 square yards. Is she correct? Explain.
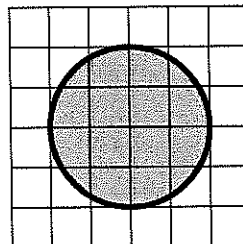

☐ = 1 square foot
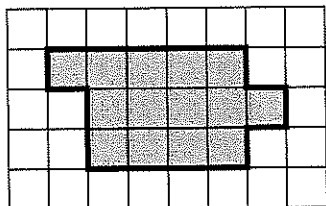
2. Choose all of the ways to break apart the area of the large rectangle into the sum of the areas of two smaller rectangles.
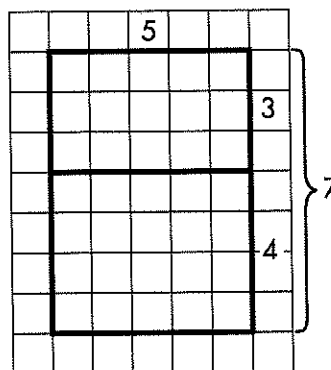

6 in.
4 in.
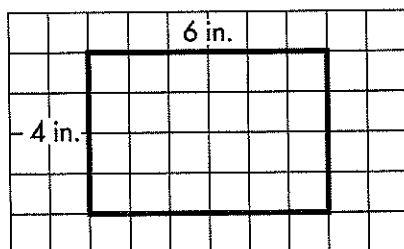
☐ $4 \times 6 = 4 \times (4 + 2) = (4 \times 4) + (4 \times 2)$

☐ $4 \times 6 = 4 \times (6 + 1) = (4 \times 6) + (4 \times 1)$

☐ $4 \times 6 = 4 \times (1 + 5) = (4 \times 1) + (4 \times 5)$

☐ $4 \times 6 = 4 \times (3 + 3) = (4 \times 3) + (4 \times 3)$

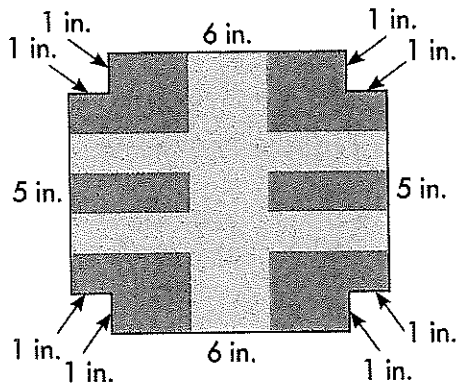☐ $4 \times 6 = 4 \times (3 + 1) = (4 \times 3) + (4 \times 1)$

4. Use the Distributive Property to write the equation that represents the picture.

5
3
7
4

5. Mrs. Anderson makes a design for a pillow top with square inches of fabric shown below. What is the total area of the design?


1 in.
1 in. 6 in. 1 in. 1 in.
5 in. 5 in.
1 in. 6 in. 1 in.
1 in. 1 in.

Ⓐ 30 square inches

Ⓑ 48 square inches

Ⓒ 52 square inches

Ⓓ 60 square inches

6. Josie draws a rectangle. Explain how to find the area.

7 cm

4 cm
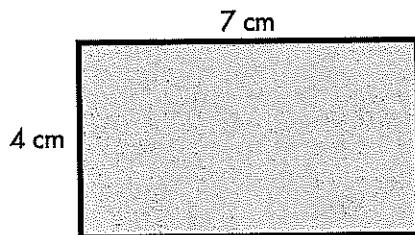
**7.** Jeff has a square garden. One side of the garden is 8 feet long. What is the area of Jeff's garden?

Ⓐ 16 square feet

Ⓑ 32 square feet

Ⓒ 64 square feet

Ⓓ 128 square feet

8. Find the missing side length. Then find the area.
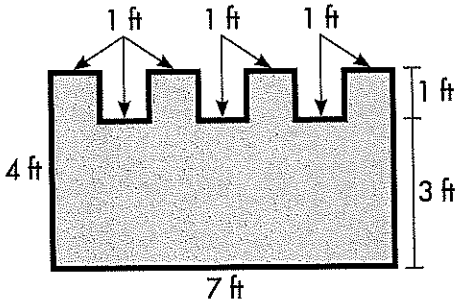

5 yd

5 yd

8 yd

4 yd

3 yd

? yd
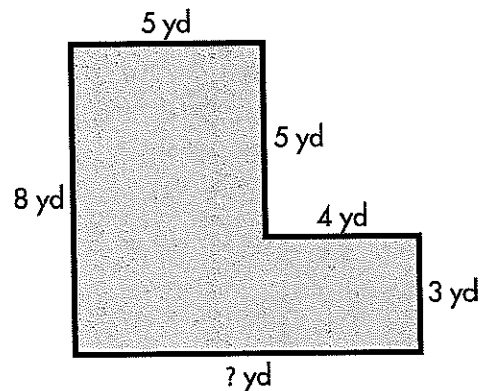
9. Lizzie draws a rectangle with an area of 42 square centimeters. She labels one side 6 centimeters, but she forgot the other side. What is the missing length?
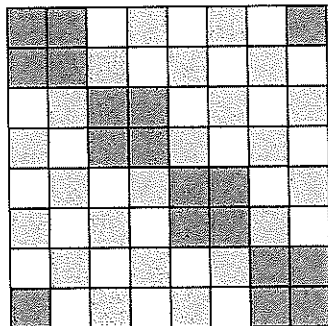

? cm

6 cm
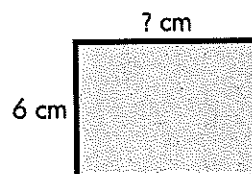
Ⓐ 6 centimeters Ⓒ 8 centimeters

Ⓑ 7 centimeters Ⓓ 9 centimeters

10. What is the area of Jo's figure?

- Ⓐ   25 square feet
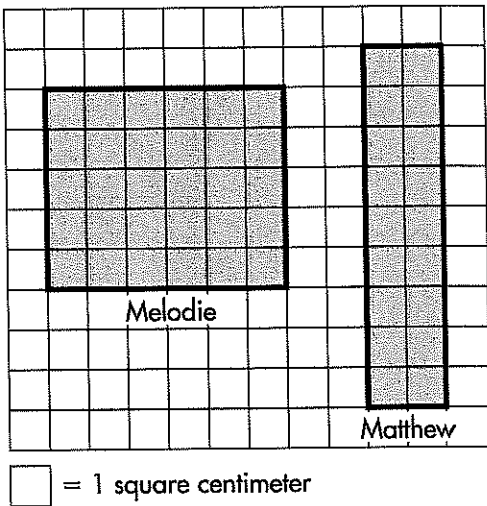- Ⓑ   28 square feet
- Ⓒ   32 square feet
- Ⓓ   35 square feet

11. Taylor makes a floor mosaic with 1-foot tiles as shown below. Do the white, light gray, or dark gray tiles cover the greatest area in Taylor's mosaic?

12. The length of a rectangle is 8 centimeters. Match the width of the rectangle to its area.

4 cm	48 square cm
6 cm	40 square cm
8 cm	32 square cm
5 cm	64 square cm

13. Melodie and Matthew each make a rectangle on grid paper. Explain how to find the area of each rectangle.

▢ = 1 square centimeter

14. Some students make a parade float with the letter *H* on it. Draw lines to divide the shape into rectangles. Then find its area.
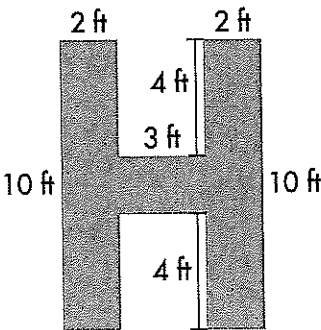
- Ⓐ 20 square feet
- Ⓒ 40 square feet
- Ⓑ 46 square feet
- Ⓓ 80 square feet

15. Richard draws a rectangle with an area of 18 square centimeters. For questions 15a–15d, choose *Yes* or *No* to tell if the lengths are possible side lengths of Richard's rectangle.
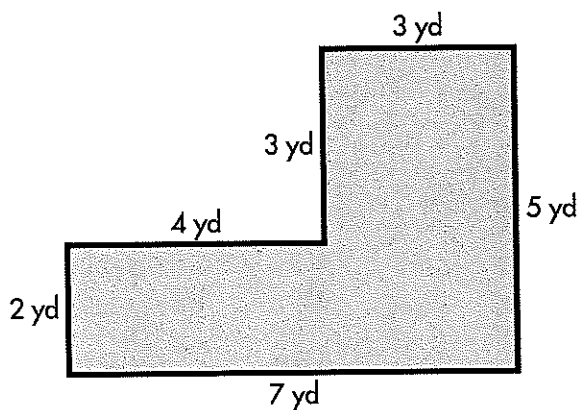
15a. 2 cm by 6 cm   ○ Yes ○ No

15b. 4 cm by 6 cm   ○ Yes ○ No

15c. 2 cm by 9 cm   ○ Yes ○ No

15d. 3 cm by 6 cm   ○ Yes ○ No

16. Mr. Wolfe builds a new deck in the shape shown below. Explain how to find the area of the deck, and solve.

3 yd

3 yd

4 yd

5 yd

2 yd

7 yd

17. Show 2 different unit squares that you can use to measure the area of these rectangles. Find the area with your unit squares.

18. Isabella wants to know the area of the lighter part of this design.

7 in.

3 in.

5 in.

7 in.
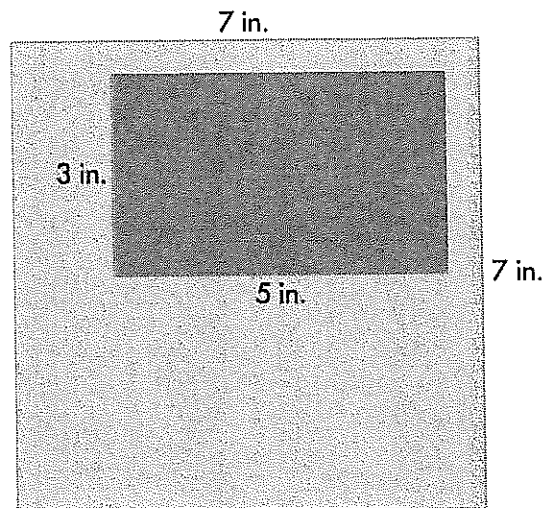
Part A

Explain how you can break this problem into simpler problems.

Part B

Find the light grey area. Show your work.

1. Mel planted his garden. He planted 8 rows with 9 plants in each row on Saturday. He planted 48 plants on Monday. He wants to know how many more plants he planted on Saturday than on Monday.

Choose the correct operations to represent this problem using equations. Write each operation on the blanks.

$8 \underline{\hspace{1cm}} 9 = p$

$p \underline{\hspace{1cm}} 48 = t$

$$+ \quad - \quad \times \quad \div$$

2. Emma has a bag of 180 peaches. She uses 126 of them to make pies for a bake sale. She divides the rest equally among 6 friends. She wants to find how many peaches each friend gets.

Which equations should she use? Choose all that apply.

☐ $180 \div 6 = a$

☐ $180 - 126 = b$

☐ $54 \div 6 = c$

☐ $54 - 6 = d$

☐ $180 - 6 = e$

3. Barry's club is selling greeting cards. There are 6 cards in each pack. Each of his 2 aunts buys 5 packs of cards. Write equations to find the total number of cards his aunts buy.

4. Rose Hill Elementary School has 448 paper cups. Grade 3 uses 126 paper cups for a class project. Grade 2 uses 118 for a class picnic. Bette says that $126 + 118 = t$ cups are used in all, and that $448 - 244 = r$ cups are left. Is her answer reasonable? Explain.

5. Tim's mother has $24 left after buying school supplies. The next day she earns $232. She then divides all of the money equally among Tim and his 3 sisters. How much money does Tim have?

6. Each of 8 teachers brings 5 boxes of corn muffins to a school event. The boxes of muffins are shared equally among 240 students.

Part A

How many students share 1 box?

Part B

Hu thinks that the answer is 24 students. He says, "8 + 5 = 13, and 13 rounds to 10. Then 10 × 24 = 240." Do you agree with his reasoning? Explain.

7. Bobbi needs 48 yards of ribbon for a craft project. The ribbon costs $4 a yard. She spends $72 on ribbon. She wants to know how many more yards of ribbon she needs. Which equation should she use first to solve this problem?

Ⓐ $c = 72 \div 4$ Ⓒ $y = 48 - 4$

Ⓑ $c = 72 + 4$ Ⓓ $y = 72 \div 12$

8. Mr. Larson worked 5 days during the week. On each work day, he spent $7 on lunch. On Sunday, he spent $40 on lunch for his family. Draw bar diagrams to represent how much he spent on lunches.

9. Alice earns money babysitting. She wants to know how much more she earned in June and July than she earned in August. First she adds up her earnings for June and July. She calls this number j. What should she do next?
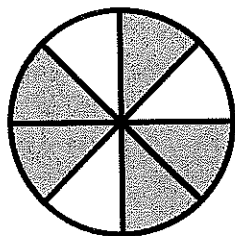
Ⓐ Multiply j by 3.

Ⓑ Add j to the amount she earned in August.

Ⓒ Subtract the amount she earned in August from j.

Ⓓ Subtract j from the amount she earned in August.

10. For questions 10a–10d, choose *Yes* or *No* to tell if the estimate is reasonable to solve this problem: $m = 54 \div 6; 192 + m = ?$.
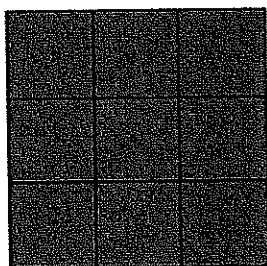
10a. 180   ○ Yes ○ No

10b. 190   ○ Yes ○ No

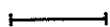**10c.** 200   ○ Yes ○ No

10d. 210   ○ Yes ○ No

1. What fraction of the whole is shaded?

[ ]

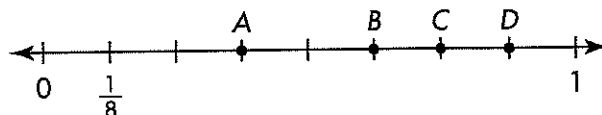**2.** Write a fraction to name the equal parts of the whole casserole.

[ ]

3. This picture represents $\frac{1}{4}$ of the length of Jo's desk. Which option represents the whole length?

Ⓐ ├────────────┤

Ⓑ ├──────────┤

Ⓒ ├──────────────┤

Ⓓ ├────┤

4. The distance from Mary's school to the library is $\frac{6}{8}$ mile. Which point is $\frac{6}{8}$ on the number line?

A   B   C   D

0   $\frac{1}{8}$ 1

Ⓐ   Point A

Ⓑ   Point B

Ⓒ   Point C

Ⓓ   Point D

5. Jaleel says each of the fractions below would be to the left of 1 on a number line. Do you agree? Choose *Yes* or *No*.

5a. $\frac{5}{3}$ ○ Yes   ○ No

5b. $\frac{3}{5}$ ○ Yes   ○ No

5c. $\frac{3}{3}$ ○ Yes   ○ No

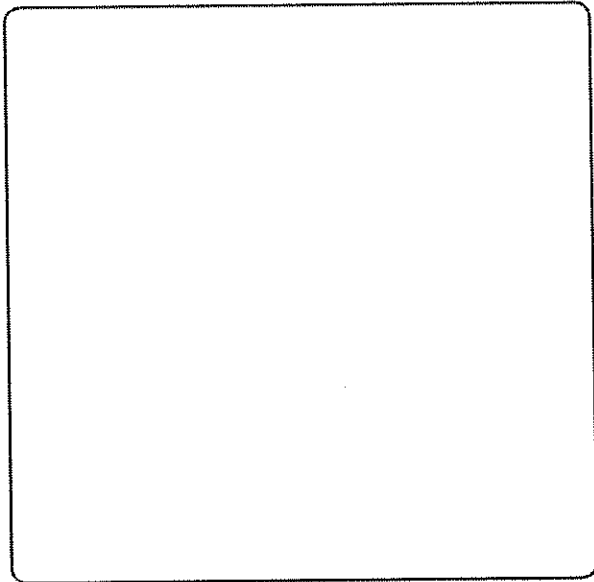**5d.** $\frac{2}{7}$ ○ Yes   ○ No

6. Nadine is making a square quilt. She divided it into 5 equal parts. She has completed $\frac{3}{5}$ of her quilt.
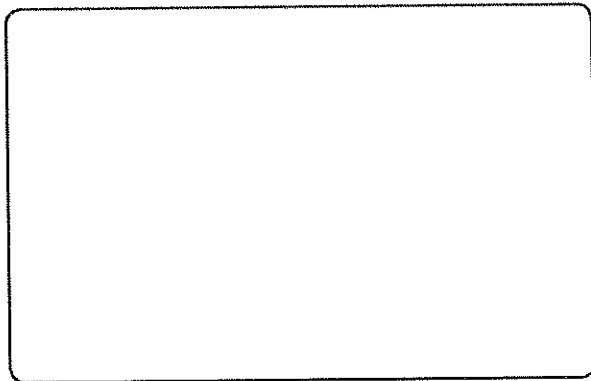
Part A

Draw a figure to show how Nadine's quilt might look. Shade the completed parts.

Part B

Explain how you knew you had shaded the correct parts of your picture.

7. In Emily's bead collection, $\frac{1}{2}$ of her beads are red and $\frac{1}{4}$ of her beads are green. What fraction of her beads are **NOT** red?
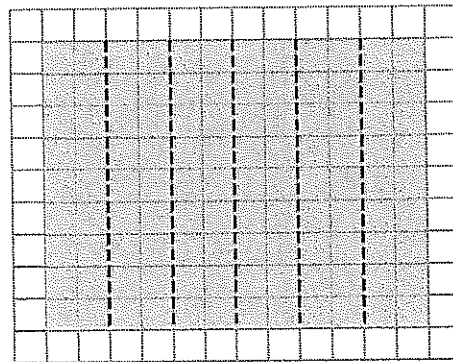
8. One point on the number line has been marked with the fraction $\frac{2}{6}$. Write a fraction for each of the other points shown.

9. Choose all the fractions that are unit fractions.

☐ $\frac{1}{3}$

☐ $\frac{2}{2}$
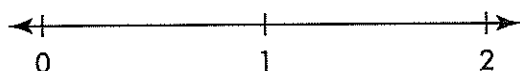
☐ $\frac{1}{4}$

☐ $\frac{1}{8}$

☐ $\frac{2}{3}$

10. Marina folded a piece of paper that is 12 inches by 9 inches into sections as shown below. What fraction of the total area is each section?

Ⓐ $\frac{1}{2}$

Ⓑ $\frac{1}{4}$

Ⓒ $\frac{1}{6}$

Ⓓ $\frac{6}{6}$

11. Divide the number line into thirds. Write each given fraction in the correct location on the number line.

$$\frac{4}{3} \quad \frac{1}{3} \quad \frac{5}{3} \quad \frac{2}{3}$$

```
◄──┼───────────────┼───────────────┼──►
   0               1               2
```

12. Mr. Roberts is building a fence. He spent 90 minutes working on each of 2 days. On the first day, he built $\frac{1}{5}$ of the fence. The second day, he built another $\frac{2}{5}$ of the fence. What fraction of the fence has he built so far?
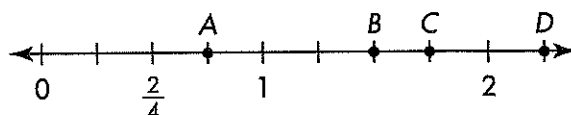
Ⓐ $\frac{1}{5}$

Ⓑ $\frac{2}{5}$

Ⓒ $\frac{3}{5}$

Ⓓ $\frac{4}{5}$

13. Alexa needs $\frac{4}{6}$ yard of ribbon to make a bracelet. She has a pencil that is $\frac{1}{6}$ yard long. How many $\frac{1}{6}$-yard lengths does she need to measure to get $\frac{4}{6}$ yard of ribbon? Use the diagram below to help.
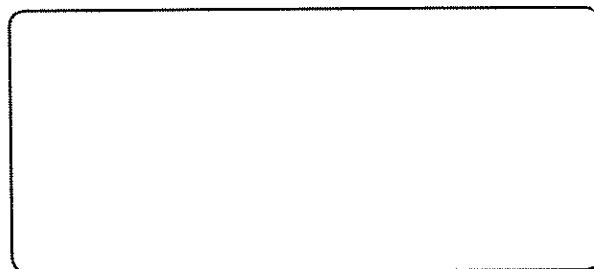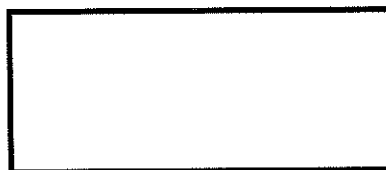
```
├───┼───┼───┼───●───┼───┤
0                       1 yard
```
———————————— $\frac{4}{6}$ yard of ribbon

◄═══ $\frac{1}{6}$-yard pencil

Ⓐ 1

Ⓑ 3

Ⓒ 4
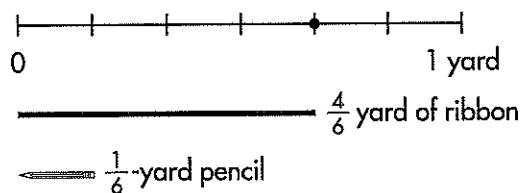
Ⓓ 6

14. Which point represents 6 lengths of $\frac{1}{4}$ on the number line?

```
        A        B  C        D
◄─┼─┼─┼─●─┼─┼─●──●─┼─●─►
  0   2     1        2
      4
```
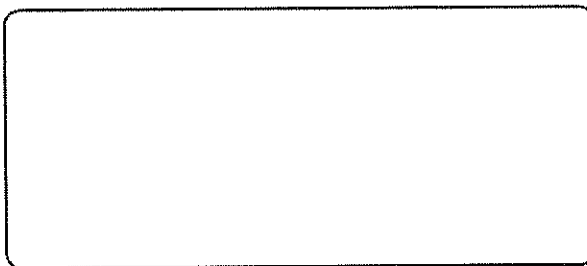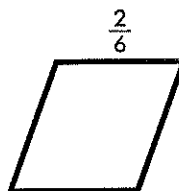
Ⓐ Point A

Ⓑ Point B

Ⓒ Point C

Ⓓ Point D

15. Spencer divided the rectangle below into 6 equal parts. Draw a figure to show how Spencer could have done this. What fraction does each part represent?
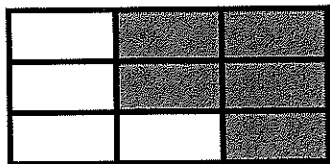
16. The figure shows $\frac{2}{6}$. Draw the parts needed to complete the whole figure and write a fraction to represent the whole.

$$\frac{2}{6}$$

17. Li believes that $\frac{3}{4}$ of the figure is shaded. Is he correct? Explain.
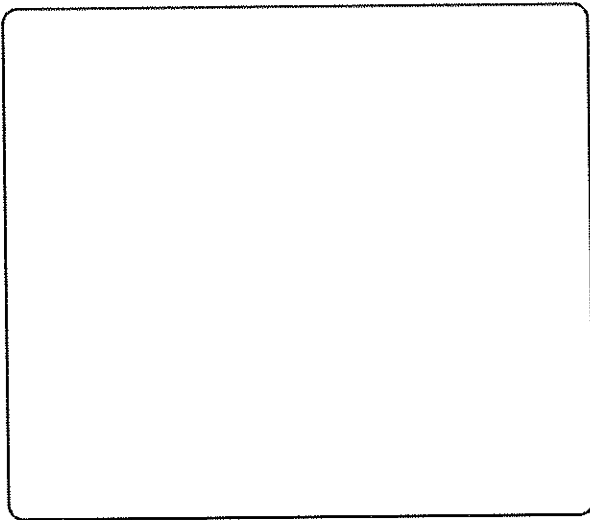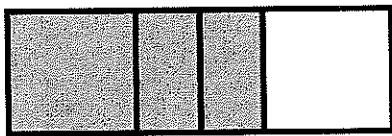
18. Choose all the sentences that describe this graphic.

☐ $\frac{4}{8}$ of the graphic is shaded.

☐ $\frac{5}{9}$ of the graphic is shaded.

☐ $\frac{9}{9}$ represents the whole.

☐ $\frac{4}{9}$ of the graphic is unshaded.

☐ $\frac{5}{8}$ of the graphic is unshaded.

19. Divide the number line into equal lengths. Then mark and label the given fraction.

8 equal lengths; $\frac{3}{8}$

0   1

20. Mary has a box of colored chalk. The table shows the lengths of some of the pieces of chalk.

Lengths of Pieces of Chalk

Chalk Color	Length (nearest half inch)
Yellow Chalk	3 in.
Blue Chalk	$3\frac{1}{2}$ in.
Red Chalk	$2\frac{1}{2}$ in.
Orange Chalk	3 in.
Green Chalk	$3\frac{1}{2}$ in.
Purple Chalk	4 in.

Part A

Measure the lengths of the gray and white pieces of chalk to the nearest half inch.

gray

white

Part B

Draw a line plot to show the lengths of all the pieces of chalk to the nearest half inch.