

Making a Line Graph

Line graphs are very similar to bar graphs. Simply replace the bars with a dot-to-dot line. Let's graph the number of new babies born to families in Li Bing's church for the last three years.

Steps in making a line graph.

Step 1

Decide how high your highest dot will be. Label the horizontal lines with numbers.

Step 2

Write a label at the side of the graph to tell what the numbers mean.

Step 3

Decide how many dots you will have, and label them at the bottom of the graph. This time we'll have 3 dots for the 3 years. There was one baby in 2003, 3 babies in 2004, and 2 babies in 2005.

Step 4

Place dots in the correct place on the grid.

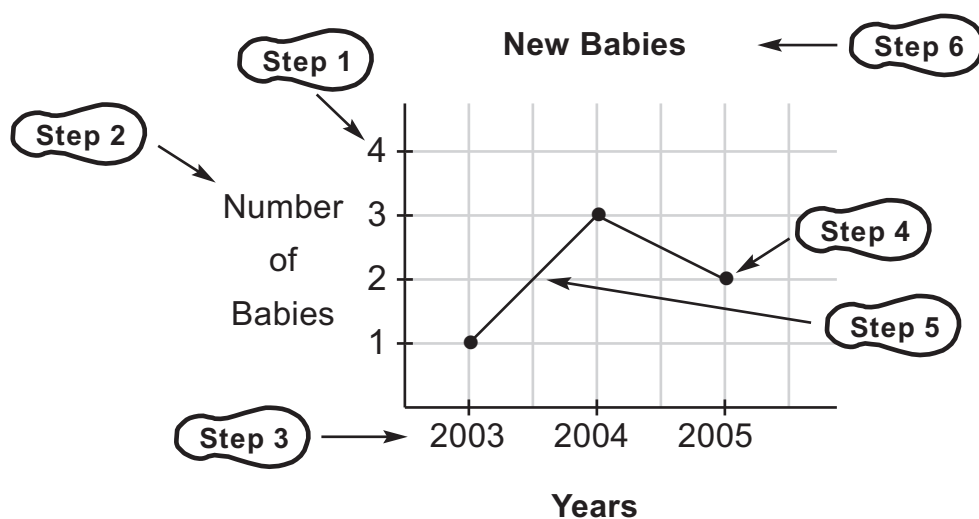
Step 5

Use a ruler to connect the dots.

Step 6

Give the graph a title.

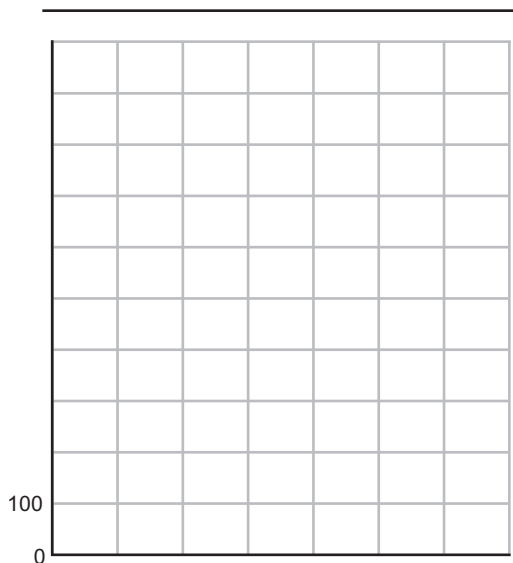
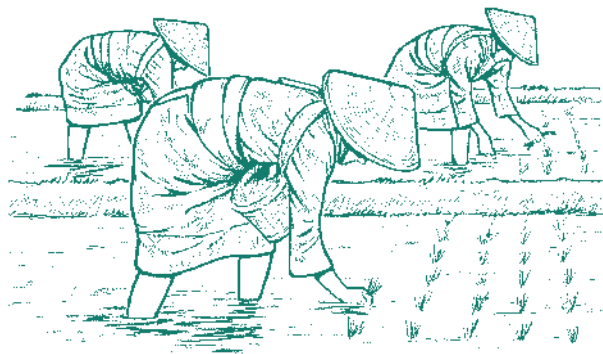
Number of Babies	Year
1	2003
3	2004
2	2005



Use Steps 1-6 from page 14 to complete the line graph.

1. China is a leading producer of rice. The table shows how many clumps of rice were planted each year for 5 years on a small farm close to Guangzhou.

Year	Clumps of Rice
1998	400
1999	600
2000	500
2001	600
2002	700



We Remember

Solve.

2. a. $\begin{array}{r} 4 \text{ hr } 25 \text{ min} \\ + 2 \text{ hr } 50 \text{ min} \\ \hline \end{array}$

b. $\begin{array}{r} 3 \text{ hr } 30 \text{ min} \\ + 4 \text{ hr } 45 \text{ min} \\ \hline \end{array}$

c. $\begin{array}{r} 2 \text{ hr } 40 \text{ min} \\ + 2 \text{ hr } 15 \text{ min} \\ \hline \end{array}$

Complete the analogies.

3. body temperature : 98.6°F : : freezing temperature : _____

4. $100 + 10 + 4 : 114 ::$ _____ $: 216$

Lesson 4

Solve Number 5 mentally.

-  5. Grandmother steamed 2 cups of dried rice for breakfast. Each cup of dried rice makes 4 cups of steamed rice. How many cups of steamed rice did Grandmother make?

My Work Space

-  6. Li Bing ate 1 cup of rice. Her mother and grandmother each ate $1\frac{1}{2}$ cups, and Mr. Chu ate $2\frac{1}{2}$ cups. How much rice was left over for Grandmother's lunch?

-  7. Our alphabet has 26 letters. To read Chinese, you must be able to read at least 5,000 different characters. Li Bing has learned 1,400 characters. How many more characters must she learn before she can read Chinese well?

My Work Space

Solve mentally.

- ☆ 8. If Li Bing learns 400 new characters each year, how many more years will it be before she learns to read Chinese well?

Simplify the expressions.

9. a. $(4 + 5) \times 12 - 8$

b. $(18 - 9) \times (27 \div 9)$

c. $5 \times 6 \div 3 + 11 \times 3$

Skill Builders $+$ $-$ $\times$ $\div$

10. a. $5 \overline{)1,513}$ b. $7 \overline{)4,965}$ c. $5 \overline{)740}$ d. $7 \overline{)94}$ e. $\begin{array}{r} 49 \\ \times 37 \\ \hline \end{array}$

11. a. $\begin{array}{r} 376 \\ \times 43 \\ \hline \end{array}$ b. $\begin{array}{r} \$468.10 \\ -246.34 \\ \hline \end{array}$ c. $\begin{array}{r} 20 \\ -13 \frac{1}{3} \\ \hline \end{array}$ d. $\begin{array}{r} 12.36 \\ 36.48 \\ + 0.23 \\ \hline \end{array}$ e. $\begin{array}{r} 18,464 \\ 10,571 \\ 2,008 \\ + 36,135 \\ \hline \end{array}$

Write true or false.

12. A right angle has perpendicular rays. _____

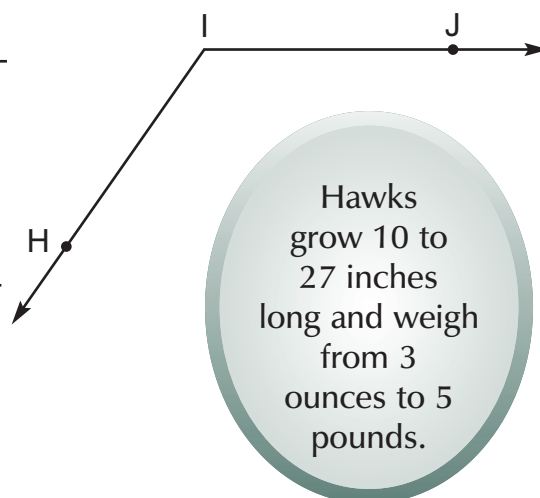
13. An obtuse angle has parallel rays. _____

14. The vertex of this angle is I. _____

15. The vertex is the corner of an angle. _____

16. This angle is named $\angle IJH$. _____

17. This is a 55° angle. _____



Mental Math . . . ?

18. a. $61 + \underline{\hspace{1cm}} = 100$ b. $82 + \underline{\hspace{1cm}} = 100$ c. $63 + \underline{\hspace{1cm}} = 100$

Lessons 4, 5

Write the LCM.

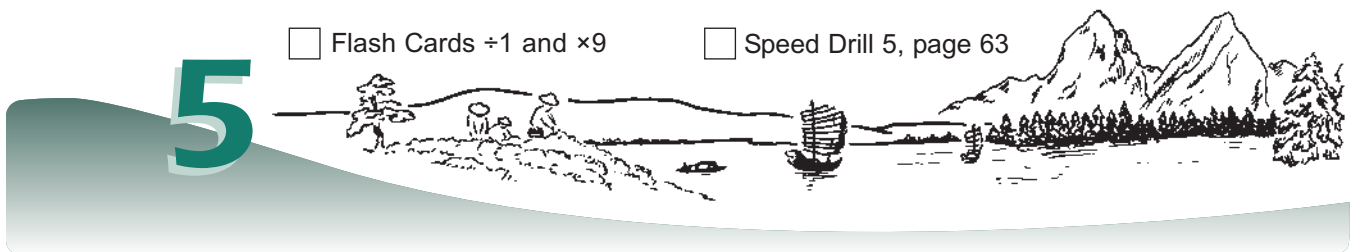
19. a. The LCM of 8 and 12 is _____. b. The LCM of 16 and 2 is _____.

Round to the place value of the underlined numbers.

20. a. 495 _____ b. 3,492 _____ c. 4,563 _____

Graph this information on the line graph on page 15.

21. In 2003, 600 clumps of rice were planted on the farm.



Tell your teacher when you are ready for Quiz 1.



Just for Fun

 **Infinity Is Forever** 

Infinity has no beginning and no end. Infinity is forever.



This is the symbol for infinity. It has no beginning and no end.

These things are infinite:

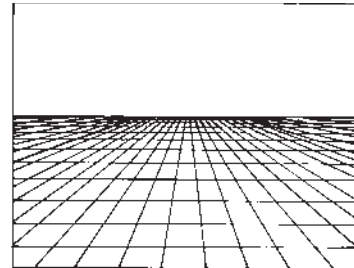
A **line** has no beginning or end.



Numbers go on forever in both directions.

... -3, -2, -1, 0, 1, 2, 3 ...

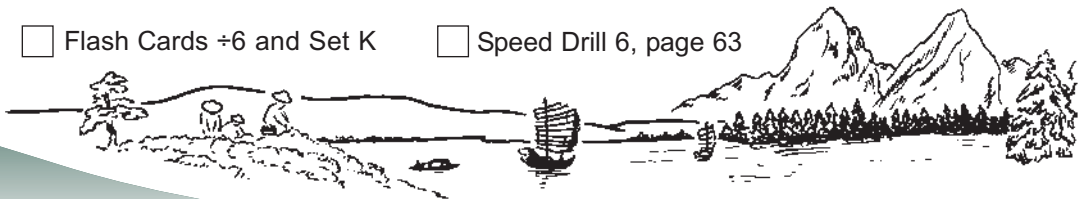
A **plane** is a flat surface whose length and width go on forever in each direction. A plane is infinitely large.



☐ Flash Cards ÷6 and Set K

☐ Speed Drill 6, page 63

6



Squares and Square Roots

Multiplying a number by itself is called *squaring a number*. Notice why.

•
 $1 \times 1 = 1$
1 squared

• •
• •
 $2 \times 2 = 4$
2 squared

• • •
• • •
• • •
 $3 \times 3 = 9$
3 squared

• • • •
• • • •
• • • •
• • • •
 $4 \times 4 = 16$
4 squared

• • • • •
• • • • •
• • • • •
• • • • •
• • • • •
 $5 \times 5 = 25$
5 squared

8 squared = ?

The answer to such a problem is the **square**. The square of 8 is 64.

The factor that is multiplied is the **square root**. The square root of 64 is 8.

Lesson 6

This chart shows the squares of the numbers from 6 to 12.

Squaring 3
 $3 \times 3 = 9$
 square root square

The square of 3 is 9.

The square root of 9 is 3.

Square Root		Square
6	—	36
7	—	49
8	—	64
9	—	81
10	—	100
11	—	121
12	—	144

Solve mentally.

- a. 6 squared = _____ b. 10 squared = _____ c. 1 squared = _____
- a. 12 squared = _____ b. 4 squared = _____ c. 7 squared = _____
- a. square root of 25 = _____ b. square root of 81 = _____
- a. square root of 4 = _____ b. square root of 121 = _____



We Remember

Turn to page iv to do these exercises.

- Decide how high the highest dot on the graph will be. Label the horizontal lines with numbers to show the range of temperatures.
- Write a label on the left side of the graph to tell what the numbers mean.

Complete the function chart.

7.

quarts	1	6		3		11	10
pints	2		8		24		

Write the number.

- Four hundred million, nine thousand, twenty-three _____

-  9. Li Bing's parents and grandmother are Christians. They worship in house churches. Last Sunday the church met in the Chu family's apartment. There were 7 men, 9 women, and 5 children. It was very crowded. How many people were at the house church meeting? Solve mentally.

-  10. There were only three Bibles to share among all the people. How many people had to share each Bible? Solve mentally.

-  11. Li Bing's father is the pastor of the house church. He has been pastor for 15 years. Mr. Chu has owned a Bible for only 5 years. What fraction of his years as a pastor has he owned a Bible? Reduce your fraction.

_____ of his years as a pastor

-  12. How many years was the pastor without a Bible? _____

Tell how many mL or L.

13. a. 6 L and 204 mL = _____ mL b. 7,000 mL = _____ L

14. a. 465 mL = _____ L and _____ mL b. 9 L = _____ mL

Measure to the nearest inch.

15. _____ in _____

Complete the sentence.

16. 325,457,618.09 has _____ hundred millions, _____ hundredths, and _____ tenths.

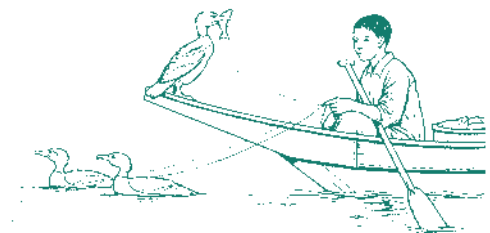
— Skill Builders $+$ $-$ $\times$ —

17. a. $9 \overline{)3,681}$ b. $3 \overline{)1,522}$ c. $9 \overline{)669}$ d. $6 \overline{)73}$ e. $\begin{array}{r} 209 \\ \times 506 \\ \hline \end{array}$

18. a. $\begin{array}{r} 14 \\ - 7\frac{2}{10} \\ \hline \end{array}$ b. $\begin{array}{r} 1\frac{3}{9} \\ + 2\frac{7}{9} \\ \hline \end{array}$ c. $\begin{array}{r} 9\frac{11}{16} \\ - \frac{4}{16} \\ \hline \end{array}$ d. $\begin{array}{r} 1 \\ - \frac{7}{9} \\ \hline \end{array}$ e. $\begin{array}{r} 6\frac{5}{8} \\ - 2\frac{7}{8} \\ \hline \end{array}$ f. $\begin{array}{r} 5\frac{3}{8} \\ - 3\frac{7}{8} \\ \hline \end{array}$

Expand the number 236,560,040 in columns. Check by adding the columns.

	Millions			Thousands					
	Hundred	Ten	One	Hundred	Ten	One	Hundreds	Tens	Ones
19.									
20.									
21.									
22.									
23.									
24.	+								
25.									



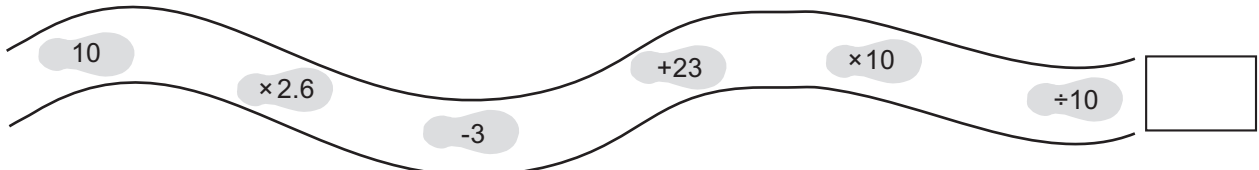
Write the ratio.

26. Li Bing's cousin Yoaxing lives on a houseboat. His trained cormorants catch fish for him. On Monday he caught 92, on Tuesday he caught 79, and on Wednesday he caught 64. What is the ratio of fish he caught on Wednesday to the fish he caught on Monday? _____

Mental Math . . . ?

27. a. $100 - 24 =$ _____ b. $100 - 7 =$ _____ c. $100 - 90 =$ _____

28. a. $800 \times 60 =$ _____ b. $700 \times 40 =$ _____ c. $20 \times 40 =$ _____

29. 

Draw the angle.

△30. 55°

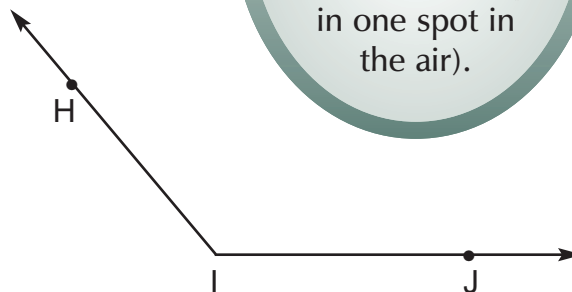
Write the answers.

31. $\angle HIJ$ measures _____.

32. This angle can also be named _____.

33. Name the vertex. _____

34. What kind of angle is this? _____



A helicopter can fly straight up, straight down, forward, backward, or sideways. It can also hover (stay in one spot in the air).

Order the decimals from greatest to least.

35. 0.37 0.73 0.07 0.03 _____

Write the common factors from 2-10.



36. a. for 24 and 32 _____

b. for 50 and 40 _____

Write the answers.

37. a. square root of 144 = _____

b. square root of 4 = _____

38. a. 7 squared = _____

b. 4 squared = _____