**1** In the school band there are only flutes and clarinets. Twenty-four students play the flute, and fifteen of them are boys. Eight girls play the clarinet.

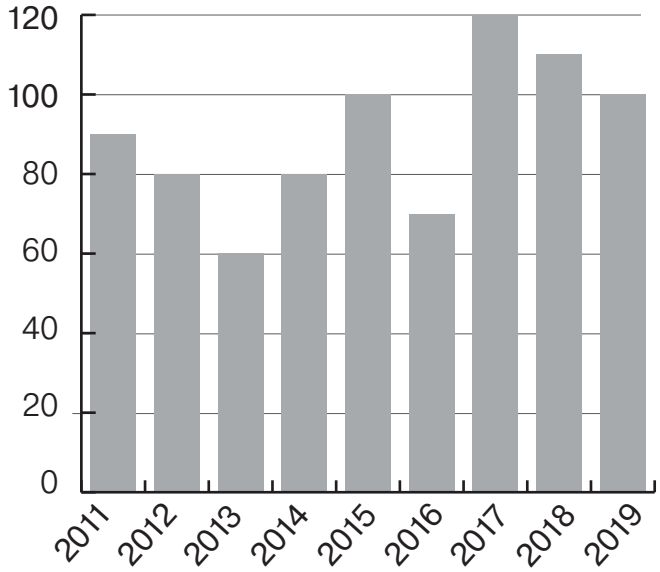
If there are 39 students in the band, how many boys play the clarinet?

a) 5
b) 7
c) 9
d) 12

**2** David has a ribbon that is eighty meters long. He can only cut the ribbon in halves. Each cut must divide one existing piece exactly in half. What is the minimum number of cuts he needs to make to get at least one ten-meter piece?

a) 2
b) 3
c) 4
d) 5

**3** The graph below shows the number of tornadoes in the US from 2011 to 2019.




What is the average number of tornadoes per year?

a) 90
b) 80
c) 100
d) 70

## Order of Operations

4 $15 - (4 + 3) \times 2 =$ _____

5 $(8 - 4) \div 2 \times 10 =$ _____

6 $4 + (12 \div 3) \times 3 =$ _____

7 $3 \times (4 + 2) - 8 =$ _____

8 $30 \div 5 + (6 \times 2) =$ _____

9 $(18 \div 6) \times 7 - 5 =$ _____

10 $8 - (7 \div 7) \times 2 =$ _____

11 $5 \times (9 - 6) + 7 =$ _____

12 $18 \div (2 + 4) \times 8 =$ _____

13 $(7 - 2) \times 3 - 9 =$ _____

14 $2 + 5 \times (10 \div 5) =$ _____

15 $21 \div (6 - 3) + 4 =$ _____

16 $(8 + 6) \times 2 - 5 =$ _____

17 $20 \div (10 - 5) \times 2 =$ _____

18 $25 - (6 + 3) \times 2 =$ _____

19 $(20 \div 5) \times 4 + 6 =$ _____

## Write numbers in expanded form

20 $5696 =$ _____

21 $9158 =$ _____

22 $4294 =$ _____

23 $5435 =$ _____

24 $3758 =$ _____

25 $4581 =$ _____

26 $6670 =$ _____

Solve the problems

**27** At a book fair, Joe bought 24 books at 3 for $5 and had $2 left. How much money did he have at first?

**28** Harry bought 155 oranges for $35. He discovered that 15 of them were rotten. He sold all the remaining oranges at the rate of 7 for $2. How much profit did he make?

**29** 20% of a class of 40 students play volleyball, 15% play basketball, and 35% play football. Half of the remaining students play soccer. Each student plays at most one of these sports. How many students play soccer?

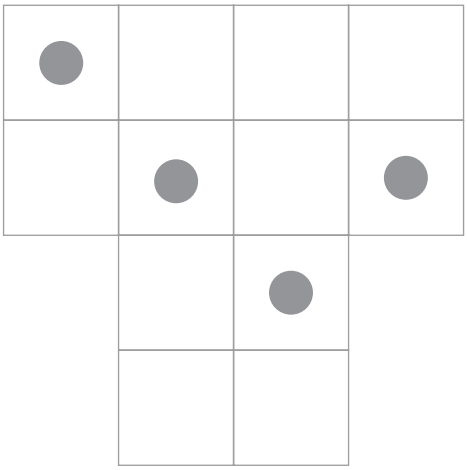
**30** David deposited $5,000 in a bank that pays simple interest at a yearly rate of 3%. Find the total amount of money he had in the bank after 2 years.

**31** Andrew had 200 postcards. Of these, 40% were U.S. postcards and the rest were overseas postcards. He bought another 100 postcards, and the percentage of U.S. postcards decreased to 30%. How many overseas postcards did he buy?

**32** Henry bought a compact disc and three videotapes. The compact disc cost $16, which is twice the price of a videotape. How much did he spend altogether?

**33** Alicia bought 420 mangoes for $378. She packed the mangoes in bags of 4 mangoes each and sold all the bags at $6 each. How much profit did she make?

**34** Partition the figure into four congruent parts using only cuts along the grid lines. Ensure each part includes one circle.



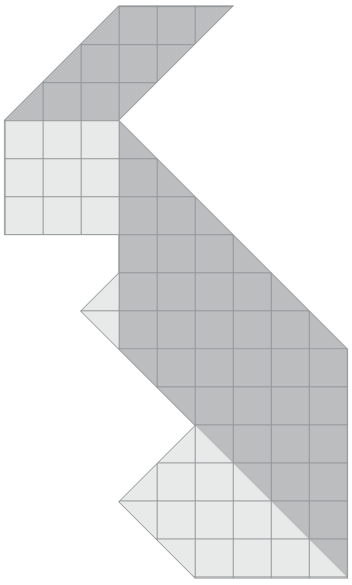
**35** The purple ribbon is longer than the blue ribbon but shorter than the red ribbon. The white ribbon is longer than the blue ribbon but shorter than the purple ribbon. Which ribbon is the shortest?

**36** Zoe is 8 years older than Lucy. Ivan is 34. Addison is 5 years younger than Ivan and 5 years older than Lucy. How old is Zoe?

**37** Place the digits 1–9 in the empty cells—no repeats. The values outside the main square indicate the sums for each row and each column.

| | | | |
|---|---|---|---|
| 4 | | | 15 |
| | 5 | | 20 |
| 3 | 1 | | 10 |
| 14 | 8 | 23 | |

**38** What is the total weight of the shape if each light square weighs 10 pounds and each dark square weighs 15 pounds?



# Answers

Answers correspond to sample problems 1-38.

**1.** b - 7 boys

**2.** b - 3 cuts

**3.** a - 90 tornadoes per year

**4.** 1

**5.** 20

**6.** 16

**7.** 10

**8.** 18

**9.** 16

**10.** 6

**11.** 22

**12.** 24

**13.** 6

**14.** 12

**15.** 11

**16.** 23

**17.** 8

**18.** 7

**19.** 22

**20.** 5000 + 600 + 90 + 6

**21.** 9000 + 100 + 50 + 8

**22.** 4000 + 200 + 90 + 4

**23.** 5000 + 400 + 30 + 5

**24.** 3000 + 700 + 50 + 8

**25.** 4000 + 500 + 80 + 1

**26.** 6000 + 600 + 70 + 0

**27.** $42

**28.** $5 profit

**29.** 6 students

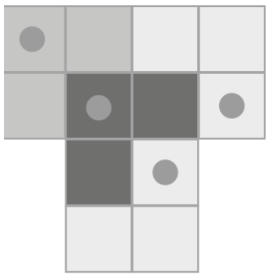
**30.** $5,300

**31.** 90 overseas postcards

**32.** $40

**33.** $252 profit

**34.**



**35.** The blue ribbon

**36.** Zoe is 32

**37.**

| | | |
|---|---|---|
| 4 | 2 | 9 |
| 7 | 5 | 8 |
| 3 | 1 | 6 |

**38.** 895 lb

**GET THE FULL WORKBOOK ON AMAZON**

Scan the QR code or click this panel to view the book.

4 practice tests | Extra math practice | Answer keys