Student Guide

Workshop: Multiplication and Division Stories (SG pp. 66–68)
Questions 1–16

1.* 45 cents; I skip counted by 5s.

H O L L Y W O O D

5 10 15 20 25 30 35 40 45

5 × 9 = 45 cents

2. 135 cents or $1.35

45¢ × 3 = 135 cents

45 + 45 + 45 = 135 cents

3. 4 shirts; Each shirt uses the letter "O" 3 times. I grouped the 12 letters into groups of 3.

O O O O
O O O O
O O O O
3 6 9 12

3 letters × 4 shirts = 12 letters

12 letters ÷ groups of 3 = 4 shirts

4. 6 shirts; Each shirt uses the letter "L" 2 times. I grouped the 12 letters into groups of 2.

L L L L L L
L L L L L L
2 4 6 8 10 12

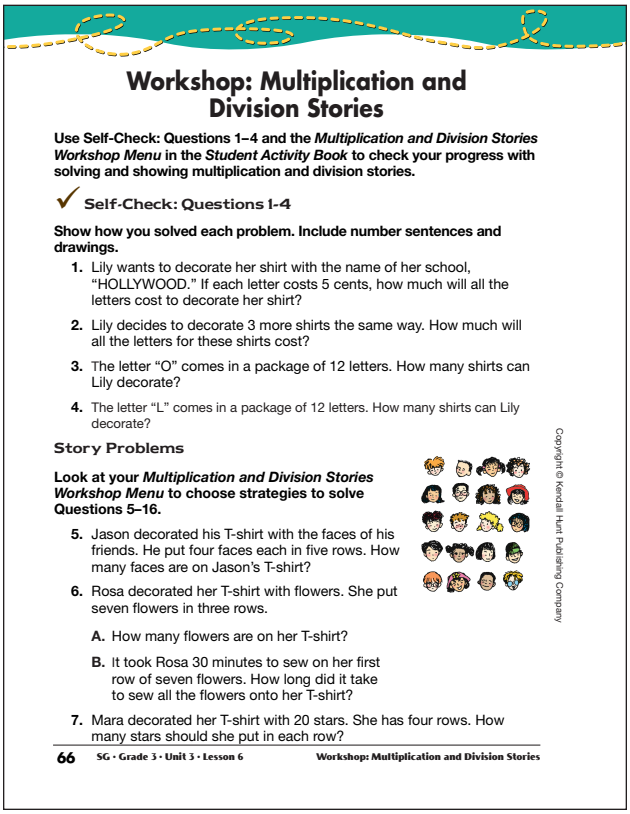
2 letters × 6 shirts = 12 letters

12 letters ÷ groups of 2 = 6 shirts

5. 20 faces; I skip counted by 5 using the picture in the book.

4 faces × 5 rows = 20 faces or

5 + 5 + 5 + 5 = 20 faces



Workshop: Multiplication and Division Stories

Use Self-Check: Questions 1–4 and the *Multiplication and Division Stories Workshop Menu* in the *Student Activity Book* to check your progress with solving and showing multiplication and division stories.

✓ **Self-Check: Questions 1-4**

Show how you solved each problem. Include number sentences and drawings.

1. Lily wants to decorate her shirt with the name of her school, "HOLLYWOOD." If each letter costs 5 cents, how much will all the letters cost to decorate her shirt?
2. Lily decides to decorate 3 more shirts the same way. How much will all the letters for these shirts cost?
3. The letter "O" comes in a package of 12 letters. How many shirts can Lily decorate?
4. The letter "L" comes in a package of 12 letters. How many shirts can Lily decorate?

Story Problems

Look at your *Multiplication and Division Stories Workshop Menu* to choose strategies to solve Questions 5–16.

5. Jason decorated his T-shirt with the faces of his friends. He put four faces each in five rows. How many faces are on Jason's T-shirt?
6. Rosa decorated her T-shirt with flowers. She put seven flowers in three rows.
   - A. How many flowers are on her T-shirt?
   - B. It took Rosa 30 minutes to sew on her first row of seven flowers. How long did it take to sew all the flowers onto her T-shirt?
7. Mara decorated her T-shirt with 20 stars. She has four rows. How many stars should she put in each row?

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6. A. 21 flowers; I skip counted by 3s on my picture. I could have skip counted by 7.

3 6 9 12 15 18 21

90 min
60 min
30 min

3 + 3 + 3 + 3 + 3 + 3 + 3 = 21 flowers

3 rows × 7 flowers = 21 flowers

B. 90 min.; see picture above.

30 min. + 30 min. + 30 min. = 90 min.

30 min. × 3 rows = 90 min.

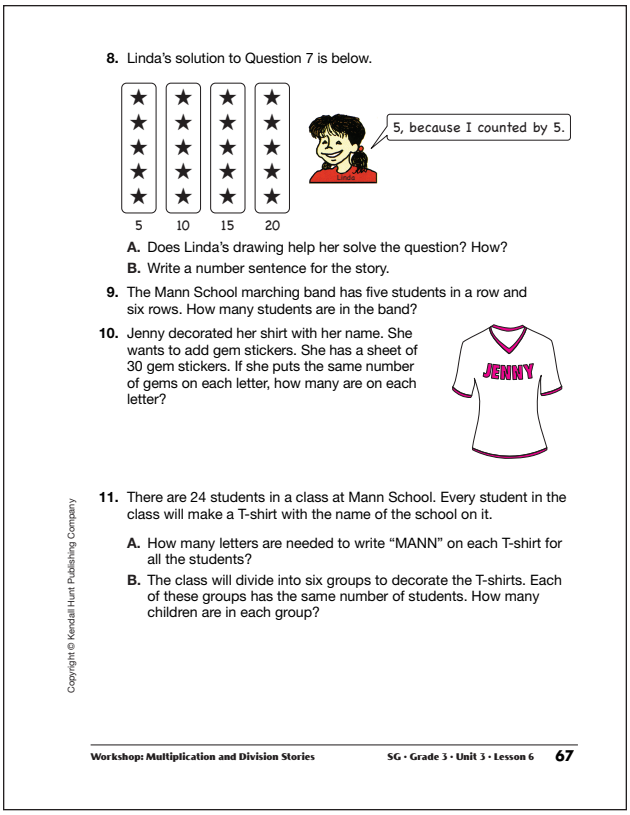
7. 5 stars in each row. I grouped the 20 stars into 4 rows.

5
10
15
20

4 rows × 5 stars = 20 stars

5 + 5 + 5 + 5 = 20 stars

***Answers and/or discussion are included in the lesson.**



8. Linda's solution to Question 7 is below.

A. Does Linda's drawing help her solve the question? How?

B. Write a number sentence for the story.

9. The Mann School marching band has five students in a row and six rows. How many students are in the band?

10. Jenny decorated her shirt with her name. She wants to add gem stickers. She has a sheet of 30 gem stickers. If she puts the same number of gems on each letter, how many are on each letter?

11. There are 24 students in a class at Mann School. Every student in the class will make a T-shirt with the name of the school on it.

A. How many letters are needed to write "MANN" on each T-shirt for all the students?

B. The class will divide into six groups to decorate the T-shirts. Each of these groups has the same number of students. How many children are in each group?

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8. A. Linda's picture does help her. The picture helped her group the 20 stars into four groups even though she used columns.

B. 20 stars ÷ 4 columns = 5 stars per column

9. 30 students in the band

5 ✖ ✖ ✖ ✖ ✖

10 ✖ ✖ ✖ ✖ ✖

15 ✖ ✖ ✖ ✖ ✖

20 ✖ ✖ ✖ ✖ ✖

25 ✖ ✖ ✖ ✖ ✖

30 ✖ ✖ ✖ ✖ ✖

5 + 5 + 5 + 5 + 5 + 5 = 30 students

5 students × 6 rows = 30 students

10. 6 gems on each letter; there are 5 letters, so I grouped the 30 gems into 5 groups.

J ✖ ✖ ✖ ✖ ✖ ✖ 6

E ✖ ✖ ✖ ✖ ✖ ✖ 12

N ✖ ✖ ✖ ✖ ✖ ✖ 18

N ✖ ✖ ✖ ✖ ✖ ✖ 24

Y ✖ ✖ ✖ ✖ ✖ ✖ 30

6 + 6 + 6 + 6 + 6 = 30 gems

5 letters × 6 gems = 30 gems

11. A. 96 letters for all the t-shirts.

4 letters × 24 students = 96 letters

I thought 24 + 24 + 24 + 24 = 96 to make the addition easier.

B. 4 students in each group. I sorted the 24 students into 6 groups.

● ● ● ● 4

● ● ● ● 8

● ● ● ● 12

● ● ● ● 16

● ● ● ● 20

● ● ● ● 24

4 + 4 + 4 + 4 + 4 + 4 = 24 students

4 students × 6 groups = 24 students

24 students ÷ 6 groups = 4 students in each group

12. A.* The first part of her number sentence is correct, 4×24 and the repeated addition sentence shows that there are 24 groups of 4. She solved the problem incorrectly. So, 92 is not equal to 4×24. $4 \times 24 = 96$.

B.* How she thought about the problem matches the problem, but she must have made a calculation error.

C.* Maybe. We don't really know what strategy she used to solve the problem.

D.* Possible response: Show how she got 92, and add labels to her numbers.

13. Michael took 60 minutes;

20 min. + 20 min. + 20 min. = 60 min.

20 min. × 3 = 60 min.

14. Richard took 20 minutes

40 min. ÷ 2 = 20 min.

15. A. 60 minutes

B. Suzanne took 45 minutes longer than Emily.

60 min. + 10 min. = 70 min.

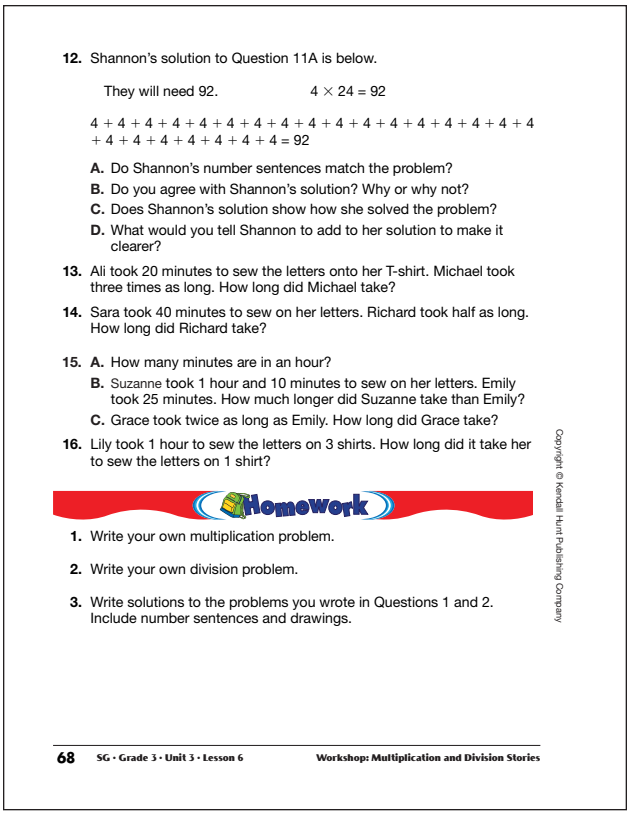
70 min. – 25 min. = 45 min.

C. Grace took 50 minutes.

25 min. × 2 = 50 min.

16. 20 minutes;

60 minutes ÷ 3 = 20 minutes



12. Shannon's solution to Question 11A is below.

They will need 92. $4 \times 24 = 92$

4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 = 92

A. Do Shannon's number sentences match the problem?
B. Do you agree with Shannon's solution? Why or why not?
C. Does Shannon's solution show how she solved the problem?
D. What would you tell Shannon to add to her solution to make it clearer?

13. Ali took 20 minutes to sew the letters onto her T-shirt. Michael took three times as long. How long did Michael take?

14. Sara took 40 minutes to sew on her letters. Richard took half as long. How long did Richard take?

15. A. How many minutes are in an hour?
B. Suzanne took 1 hour and 10 minutes to sew on her letters. Emily took 25 minutes. How much longer did Suzanne take than Emily?
C. Grace took twice as long as Emily. How long did Grace take?

16. Lily took 1 hour to sew the letters on 3 shirts. How long did it take her to sew the letters on 1 shirt?

Homework

1. Write your own multiplication problem.
2. Write your own division problem.
3. Write solutions to the problems you wrote in Questions 1 and 2. Include number sentences and drawings.

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Homework
Questions 1–3

Answers, number sentences, and drawings will vary.

***Answers and/or discussion are included in the lesson.**