**Grade 6**

# EWSIS Summer after Grade 6 Assignment

**1. Multiple Choice** What are the dimensions of the entire rectangle?

| $6 \times 8$ | $6 \times 4$ |
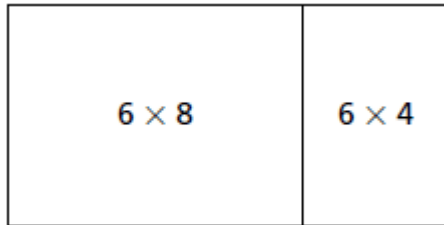
**A.** 36 by 32   **B.** 12 by 12   **C.** 48 by 24   **D.** 6 by 12

**2.** A picture is surrounded by a frame, as shown below.

$10\frac{5}{8}$ in.

$6\frac{1}{2}$ in.
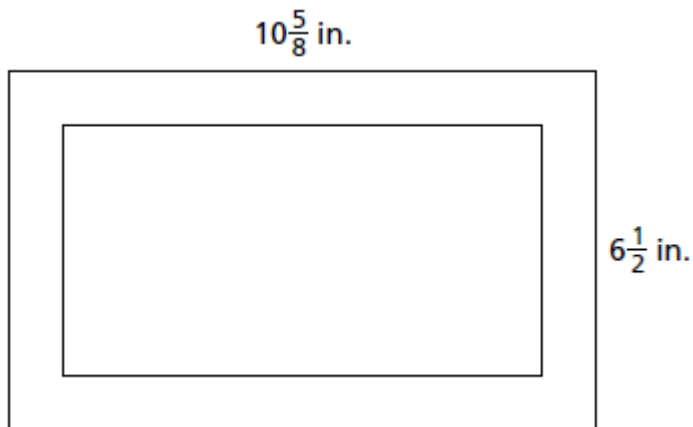
**a.** What is the area of the entire picture, including the frame?

**b.** If the frame is 1 inch wide, what is the perimeter of the picture itself?

**3.** One of the projects in an art class is using tiles to make mosaic designs. Some students choose to make small tabletops.

Maria wants to make her table top with trapezoid tiles that are identical in size and shape, but in a variety of colors.

10 cm

5 cm

7 cm

15 cm
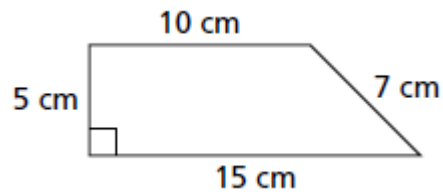
**a.** What is the area of each tile?

**b.** About how many full tiles will she need to cover a rectangular tabletop that is 50 centimeters long and 40 centimeters wide?

**c.** Will she need to cut any tiles to cover the tabletop completely?

**4.** A group of teachers plan to operate a summer sleepover camp. The camp will be called *All Around Kids* because it will offer activities and coaching in music, art, science, and sports. The camp will also provide hiking and camping. Each camp period will be two weeks long.

The first task is to figure out:

- how much it would *cost* to operate the camp

- the *price* to charge campers

- the expected *number of campers*

- the expected *income* from camper fees

- expected *profit* from operations.

After consulting with some other camp operators, the teachers produced some graphs showing relationships among the key variables.

| Graph 1 | Graph 2 | Graph 3 | Graph 4 |
|---|---|---|---|
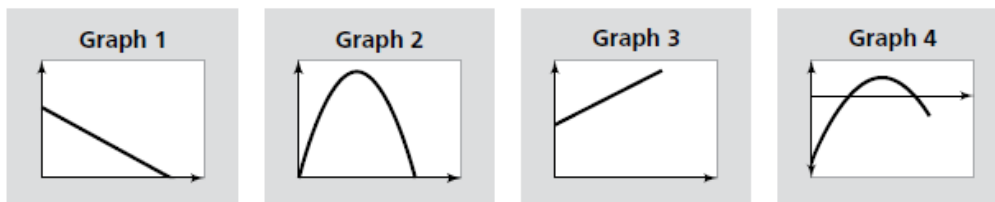
Match each graph above with the relationship between variables listed below. <u>Explain</u> your match in each case.

**a.** Operating cost depends on the number of campers enrolled.

**b.** Number of campers depends on the price charged.

**c.** Income from fees depends on number of campers.

**d.** Profit depends on the fee charged each camper.

**e.** In planning for camp operation, the teachers decided that *operating cost c* depends on *number of campers n* according to the equation $c = 15,000 + 100n$. Use that equation to complete the following table of sample (*campers, cost*) value pairs.

| Number of Campers | 0 | 10 | 20 | 50 | 100 |
|---|---|---|---|---|---|
| Operating Cost ($) | | | | | |

**f.** How would you describe the rate at which operating costs increase as the number of campers increases?

**5.** Students and teachers in the jazz band needed some money to buy new music. They decided to have a fund-raising walkathon. Band members collected pledges from friends who paid a certain amount for each mile walked by the band member they were sponsoring.

To get special attention for their event, they decided to walk backwards. When the event was over, the band leader reported the results in a table.

| Grade | Distance Walked (mi) | Money Raised ($) |
|---|---|---|
| Six | 14 | 25 |
| Seven | 20 | 36 |
| Eight | 16 | 64 |
| Total | 50 | 125 |

Compare the miles walked and money raised by band members to answer the following questions.

**a.** What fraction of all money was raised by sixth grade band members?

**b.** What percent of all miles did seventh graders walk?

**c.** What was the unit rate at which eighth-grade walkers raised money?

**d.** What is the ratio of total money raised for every mile walked?