Math 365

Section 5.4

Problem 1

Two numbers are in the ratio 3:5. Find the numbers if

a) their sum is 112.

b) their product is 960.

Problem 2

A rectangular yard has a width-to-length ratio of 4 to 7. If the distance around the yard is 286 meters, what are the dimensions of the yard?

Problem 3

Sarah, Lisa, and Rosanne invested in a stock in the ratio of 3 to 4 to 5 respectively. If they divide the profit of $24603 proportionally to their investment, how much will each receive?

Problem 4

If Ms. Barbie’s classroom contains boys and girls where 4/5 of a classroom are girls, what is the ratio of girls to boys?

Problem 5

Art used 3 loads of stone pavers to make a circular patio with a radius of 10 feet. Ken wants to make another circular patio with a radius of 15 feet, so he sets up the following proportion:

\[
\frac{3 \text{ loads}}{10 \text{ feet}} = \frac{x \text{ loads}}{15 \text{ feet}}
\]

Is this correct? Why or why not?
Problem 6
At a local high school, the teacher-student ratio is 1:30. If the school has 1800 students, how many additional teachers must be hired to reduce the ratio to 1:20?

Problem 7
In a photograph of a father and his daughter, the daughter’s height is 2.3 cm and the father’s height is 5.8 cm. If the father and daughter’s combined actual height is 526.5 cm, how tall is the father?

Problem 8
A batch of lotion was made at a factory by mixing 1.3 liters of ingredient A with 2.7 liters of ingredient B in a mixing vat. By accident, a worker added an extra 0.5 liters of ingredient A to the mixing vat. How many liters of ingredient B should the worker add to the mixing vat so that the ingredients will be in the original ratio?