Math 4a. Homework 24.

1. Distance (S), speed (v) and time (t) are connected by the relationship:

$$S = t \cdot v$$

If something is moving at a speed v $\left(\frac{unit\ of\ distance}{unit\ of\ time}\right)$ during the time t $(unit\ of\ time)$ it can cover the distance S $(unit\ of\ distance)$.
If distance and time of the motion are known, the speed at which the object was moving can be found from the relationship $S = t \cdot v$:

$$v = \frac{S}{t}$$

If the distance and the speed of the motion are known, the time can be found:

$$t = \frac{S}{t}$$

Find the unknowns:

$a.\ v = 6\frac{m}{min};\quad t = 15\ min,\quad S = ?$
$b.\ S = 8\ km;\quad t = 2\ h,\quad v = ?$
$c.\ S = 57\ km;\quad t = 19\ min,\quad v = ?$
$d.\ S = 20\ km;\quad v = 10\frac{m}{min},\quad t = ?$

2. Evaluate:

$a.\ 2.1^2 - 2.1;$ $b.\ 0.9 - 0.9^2;$ $c.\ 2 \cdot 0.8^2;$
$d.\ (2 \cdot 0.8)^2;$ $e.\ 2.5^2 - 0.5^2;$ $c.\ (2.5 - 0.5)^2;$

3. Grandma Polly is preparing strawberry jam. One jar was made with 500 g of strawberries and 120 g of sugar, while another jar contains 600 g of berries and 180 g of sugar. Which jam is sweeter?

4. The car's tank holds 15 gallons of gasoline. How many gallons of gasoline are in the tank if it is filled to 55%?

5. In the school president election, votes were divided as 3:2 between two candidates. What portion of all students voted for the winner? What percentage of the votes did he receive?