Practice Questions for Assignment

1. Let $y = 2\sqrt{x} + x^2$. If $x = 4$, find y.
2. Let $z = 0.5xy + (x + y)^2$. If $x = 2$ and $y = 3$, find z.
3. Let $z = 0.5 \min\{3x, y\}$. If $x = 3$ and $y = 4$, find z.
4. Let $y = 100 - 2x$. If $y = 30$, find x.
5. Let $y = 10 - 0.5x$. Find a and b, such that $x = a + by$.
6. Let $y = a + bx$. Given the following table, find a and b:

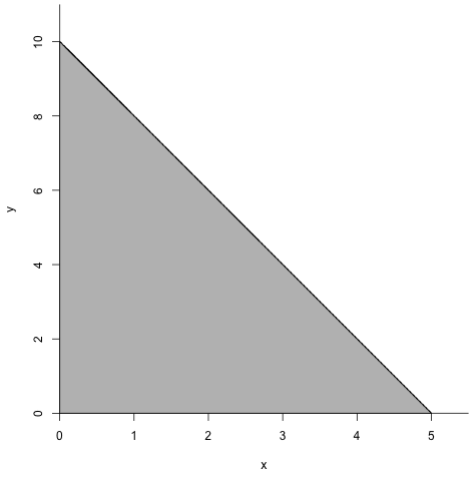
y	x
0	10
25	5
50	0

7. Solve the following system of linear equations for x and y:

$$\begin{aligned} y &= 5 + 2x \\ x &= 20 - 2y \end{aligned}$$

8. Suppose x increases from 50 to 60. By what percentage has x grown by?
9. Find the area of a rectangle with base of 12.5 and height of 3.

Use the following figure to answer questions 9-10:



10. Find the area of the shaded region.

Answers

1. $y = 20$
2. $z = 28$
3. $z = 2$
4. $x = 35$
5. $a = 20$, $b = -2$
6. $a = 50$, $b = -5$
7. $x = 2$, $y = 9$
8. 20%
9. 37.5
10. 25