

Math 165/166

Lab 6, Feb 12

Applications of quadratic equations & Inequalities

Name:

Box Number:

1. Solve the inequality and graph the solution on a number line.

(a) $3(2x + 4) \leq 5(x - 6)$

(b) $x^2 - 5x + 4 > 0$

(c) $\frac{2x-1}{3x+2} + 1 \geq \frac{-1}{2}$

(d) $-4 < -2x + 1 \leq 10$

(e) $(1-x)(1+x)(2-x) < 0$

2. A salesman worked a certain number of days to earn \$192. If he had been paid \$8 more per day, he would have earned the same amount of money in 2 fewer days. How many days did he work?

3. The area of a rectangle is 48 square inches. If the length and width are each increased by 4 inches, the area of the newly formed rectangle is 120 square inches. Find the dimensions of the original rectangle.

Answer:

1. (a) $(-\infty, -42]$ (b) $(-\infty, 1)$, or $(4, \infty)$ (c) $(-\infty, -\frac{2}{3})$, or $(-\frac{4}{13}, \infty)$ (d) $[-4.5, 2.5)$

(e) $(-\infty, -1)$ or $(1, 2)$

2. 8 days

3. 6 by 8