**Solving and Graphing Inequalities**

**Solve the inequality. Then graph the solution.**

1. 16 < 3x + 22
2. 7 – 2p ≥ -5
3. -3y + 2 < -16
4. -2w + 6 < 2
5. 12c + 72 > 48c
6. 5x – 14 ≤ 2x + 7
7. 5 – 4z > 17 – z
8. 10 ≥ 5(3 + x)
9. 10a > -5(a + 6)
10. 2(5x – 4) ≤ 8(x + 1)

**Make sure to fully answer all parts of the following word problems.**

1. Jade works in a clothing store and earns $350 per week, plus $0.20 for every dollar of clothing she sells. Solve the inequality 350 + 0.2x ≥ 500 to find how much she has to sell in one week to earn at least $500. Explain what the solution means in this situation. How would the solution change if she earns only $0.15 for every dollar? Explain in words.
2. It costs a magazine publisher $1.20 to produce each magazine. Overhead costs, such as salaries and office space, are $25,000 per month. The publisher sells the magazine for $3.95. Write and solve an inequality to represent the situation. Explain in words what the solution means for this problem. If the magazine publisher cuts costs to $1.10 per magazine and $24,000 in overhead, what effect will this have? Explain.