Math 3H Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Per:\_\_\_

8.4 Solving Systems of Inequalities

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| **Solve each inequality. Write the answer in interval notation.** |
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| 1. The perimeter of a rectangle is 60 feet. Describe the possible lengths of a side if the area of the rectangle is not to exceed 161 square feet.
 | 1. A diver leaps into the air at 20 feet per second from a diving board that is 12 feet above the water. For how many seconds is the diver at least 10 feet above the water?
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| 1. A projectile is fired straight upward from ground level with and initial velocity of 96 feet per second. During which interval of time will the projectile’s height exceed 80 feet?
 | 1. An open box is made from a rectangular piece of cardboard measuring 11 inches by 14 inches by cutting identical squares from the corners and turning up the sides. Describe the possible lengths of the sides of the removed squares if the volume of the open box is not to exceed 132 cubic inches.
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| 1. A calculator company’s fixed monthly cost is $25,000 and the cost of producing a single calculator is $75. Describe the company’s production level for the month so that the average cost of producing a calculator does not exceed $125.
 | 1. A new drink company is packaging their new cola in 1-liter  cylindrical cans. Find the radius of the cans if the cans have a surface area that is less than .
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