

HW: Worksheet

$$m > 12$$

Warm up:

1) Maria, who is older than her 12-year-old brother, is 4 years younger than Sue. Write an inequality using 's' to represent Sue's age.

$$s - 4 > 12$$

2) The sum of four consecutive integers is at most 100. Write an inequality using 'n' to represent the smallest integer.

$$n + n + 1 + n + 2 + n + 3 \leq 100$$

After serving 45lb of poultry, a caterer had more than 10lb left. How many pounds of poultry did the caterer have originally?

$$\begin{array}{r} p - 45 > 10 \\ + 45 \quad + 45 \\ \hline \end{array}$$

$$p > 55$$

more than 55 lb

Sonya is a waitress. She earns \$200 a week plus a 15% tip on the cost of each meal she serves. What must be the total cost of the meals she serves in order for her to earn at least \$425 each week?

$$\begin{array}{r} 200 + 0.15m \geq 425 \\ -200 \qquad \qquad \qquad -200 \\ \hline \end{array}$$

$$\begin{array}{r} 0.15m \geq 225 \\ \hline 0.15 \qquad \qquad 0.15 \\ \hline m \geq 1500 \end{array}$$

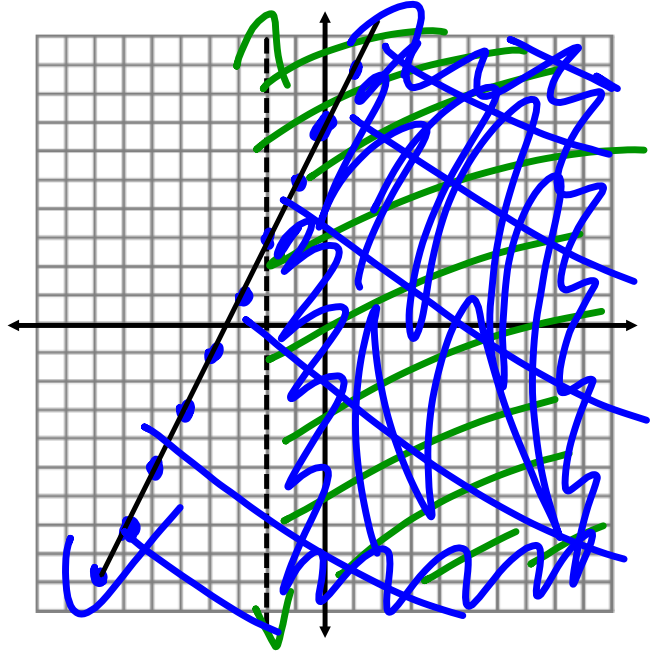
at least
\$1500

HW Solutions

⑧

$$x > -2$$

$$y \leq 2x + 7$$



Practice

After selling a dozen copies of the Daily Bulletin, a newsdealer had fewer than 75 copies left. How many copies did the newsdealer have originally?

A house and lot together cost more than \$89,000. The house costs \$1000 more than seven times the cost of the lot. How much does the lot cost?

Martha wants to rent a car for a week and pay no more than \$130. How far can she drive if the car rental costs \$94 a week plus \$0.12 a mile?

Jordan's salary is \$1250 a month plus a 5% commission on all his sales. What must the amount of his sales be to earn at least \$1500 each month?

The sum of two consecutive integers is less than 55. Find the pair of integers with the greatest sum.

$$\begin{array}{r} x + x + 1 < 55 \\ 2x + 1 < 55 \\ \hline 2x = 54 \\ \frac{2x}{2} = \frac{54}{2} \\ \hline x < 27 \end{array}$$

26 and 27

The sum of two consecutive even integers is at most 400. Find the pair of integers with the greatest sum.

Two trucks start from the same point at the same time and go in opposite directions. One truck travels at 88km/h and the other travels at 72km/h. How long must they travel to be at least 672km apart?

Between them, Terry and Shelley have 50 cassettes. If Shelley has more than two thirds as many cassettes as Terry, at least how many cassettes does Shelley have? At most how many does Terry have?

A bag contains 100 marbles, some red and the rest blue. If there are no more than one and a half times as many red marbles as blues ones in the bag, at most how many red marbles are in the bag? At least how many blues ones are in the bag?

Ken has 22 coins, some of which are dimes and the rest are quarters. Altogether, the coins are worth more than \$3.40. At least how many of the coins are quarters? At most how many are dimes?

The length of a rectangle is 4cm longer than the width and the perimeter is at least 48cm. What are the smallest possible dimensions for the rectangle?

A pair of consecutive integers has the property that 7 times the smaller is less than 6 times the greater. What are the greatest such numbers?

At 1PM two trains traveling toward each other leave from towns that are 312km apart. One train averages at most 82km/h and the other at most 74km/h. What is the earliest possible time for them to meet?

If Maura were able to increase her average cycling speed by 3.5km/h , she would be able to cover in 2h a distance at least as great as that which now takes 3h . What is her best average speed at present?

There are three exams in a marking period. A student received grades of 75 and 81 on the first two exams. What grade must the student earn on the last exam to get an average of no less than 80 for the marking period?

Betty earns a salary of \$14,000 per year plus 8% commission on all her sales. How much must her sales be if her annual income is to be no less than \$15,600?

A mechanic earns \$20 an hour, but 25% of his earnings are deducted for taxes and various types of insurance. What is the least number of hours the mechanic must work in order to have no less than \$450 in after-tax income?

At least how many grams of copper must be alloyed with 387g of pure silver to produce an alloy that is no more than 90% pure silver?

The length of a rectangle exceeds the width by 10cm. If each dimension were increased by 3cm, the area would be no less than 111cm^2 more. What are the least possible dimensions of the rectangle?

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