Inequality Worksheets

1. Shaggy earned $7.55 per hour plus an additional $100 in tips waiting tables on Saturday. He earned at least $160 in all. Write an inequality and find the minimum number of hours, to the nearest hour, that Shaggy worked on Saturday.

2. At most, Kyle can spend $50 on sandwiches and chips for a picnic. He already bought chips for $6 and will buy sandwiches that cost $4.50 each. Write and solve an inequality to show how many sandwiches he can buy. Show your work, and interpret your solution.

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1. Shaggy earned $7.55 per hour plus an additional $100 in tips waiting tables on Saturday. He earned at least $160 in all. Write an inequality and find the minimum number of hours, to the nearest hour, that Shaggy worked on Saturday.

Let h represent the number of hours worked.

$$7.55h + 100 \geq 160$$
$$7.55h + 100 - 100 \geq 160 - 100$$
$$7.55h \geq 60$$

$$\left(\frac{1}{7.55}\right)(7.55h) \geq \left(\frac{1}{7.55}\right)(60)$$
$$h \geq 7.9$$

If Shaggy earned at least $160, he would have worked at least 8 hours.

2. At most, Kyle can spend $50 on sandwiches and chips for a picnic. He already bought chips for $6 and will buy sandwiches that cost $4.50 each. Write and solve an inequality to show how many sandwiches he can buy. Show your work, and interpret your solution.

Let s represent the number of sandwiches.

$$4.50s + 6 \leq 50$$
$$4.50s + 6 - 6 \leq 50 - 6$$
$$4.50s \leq 44$$

$$\left(\frac{1}{4.50}\right)(4.50s) \leq \left(\frac{1}{4.50}\right)(44)$$
$$s \leq 9\frac{7}{9}$$

At most, Kyle can buy 9 sandwiches with $50.