

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

### Maximum Texts Allowed



**Kayla's cell phone plan has a fixed fee of \$45 per month plus \$0.10 per text message. Kayla's mom said she would take away the phone if she spent more than \$60 on her phone service this month.**

a) Write an expression that can be used to represent Kayla's cell phone plan.

Expression \_\_\_\_\_

b) Write an inequality to represent the number of text messages that Kayla can send or receive to stay within her budget and keep her phone.

Inequality \_\_\_\_\_

c) Kayla's mom says that Kayla can send 150 texts before going over the \$60. Is Kayla's mom correct? Justify your answer using mathematical reasoning, and show how many texts Kayla can send on the number line below.



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Ex1: Solve the linear inequality. Graph the solution set, and express in set notation.

a.  $4x - 3 + x + 8 > 20$



b.  $-11y - 13 \geq 42$



c.  $23 \leq 10 - 2w$



d.  $\frac{2x}{3} + 5 > -3$



Ex2: Solve the linear inequality. Graph the solution set, and express in set notation.

a.  $4(3t - 5) + 7 > 8t + 3$



b.  $6(5z - 3) \leq 36z$



c.  $2(h + 6) > -3(8 - h)$



d.  $\frac{3f - 10}{5} < 7$

