Per: _____

3-4 Solve Multi-Step Inequalities
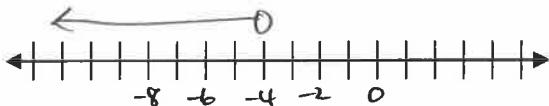
Solve each inequality and graph the solutions.

1. $3f - 12 < -24$
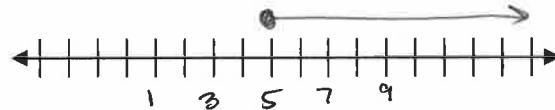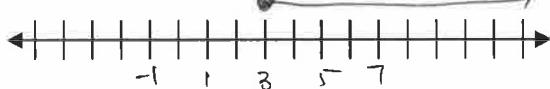
$+12 \quad +12$

$3f \quad < -12$

$\boxed{f < -4}$

2. $\frac{4}{5}x - 8 \geq -4$

$\phantom{\frac{4}{5}x}+8 \quad +8$

$\frac{5}{4}\left(\frac{4}{5}\right)x \geq 4\left(\frac{5}{4}\right) \quad \boxed{x \geq 5}$

3. $2(3 - 4z) \leq -6z$

$6 - 8z \leq -6z$

$+8z \quad +8z$

$\frac{6}{2} \leq \frac{2z}{2} \quad 3 \leq z$

$so \boxed{z \geq 3}$

4. $4(k - 6) + 8 \geq 8(k + 3)$

$4k - 24 + 8 \geq 8k + 24$
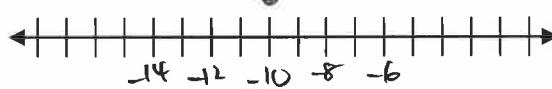
$4k - 16 \geq 8k + 24$

$-40 \geq 4k$

$-10 \geq k \quad so \boxed{k \leq -10}$

Write an inequality to represent the situation. Then solve it.

5. Brad has a budget of $100 for going to the gym. The gym he uses charges $25 for a monthly membership and $4.50 per visit. How many times can Brad go to the gym and spend no more than $100?

Let x = # times Brad goes to the gym

$25 + 4.50x \leq 100$

$-25 -25$

$4.50x \leq 75$

$x \leq 16.6$

Brad can go to the gym at most 16 times.