1.

$40 \leq g \leq 60$

2.

Sample: The direction of the inequality symbol changes because each side of the inequality was multiplied by a negative. When an inequality is multiplied by a negative, the relationship of each side changes to one another, which means the inequality sign must change as well.

3.

$\frac{6}{5}(m-3) \leq 12$

$m - 3 \leq 10$

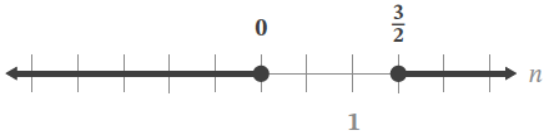
$m \leq 13$

4.

$\frac{1}{5}n + 8 \leq 8$ OR $4n - 12 \geq -6$

$\frac{1}{5}n \leq 0$ OR $4n \geq 6$

$n \leq 0$ OR $n \geq \frac{3}{2}$



5.

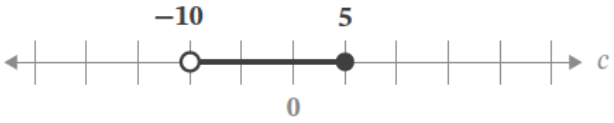
$-4 < \frac{3}{5}c + 2 \leq 5$

$-4 < \frac{3}{5}c + 2$ AND $\frac{3}{5}c + 2 \leq 5$

$-6 < \frac{3}{5}c$ AND $\frac{3}{5}c \leq 3$

$-10 < c$ AND $c \leq 5$

$-10 < c \leq 5$



This can be solved together or as two separate inequalities.

6.

$|z + 1| \geq 10$

$z + 1 \geq 10$ OR $-(z + 1) \geq 10$

OR $z + 1 \leq -10$

$z \geq 9$ OR $z \leq -11$

7.

$\frac{1}{2}|v - 4| + 6 < 14$

$\frac{1}{2}|v - 4| < 8$

$|v - 4| < 16$

$v - 4 < 16$ AND $-(v - 4) < 16$

$v < 20$ AND $v - 4 > -16$

$v > -12$

$-12 < v < 20$

8.

$3|k| + 3 \geq 0$

$3|k| \geq -3$

$|k| \geq -1$

all real numbers

9.

Let f = the length of the fish Sam could keep

$|f - 25| \leq 2$

$f - 25 \leq 2$ AND $-(f - 25) \leq 2$

$f \leq 27$ AND $f - 25 \geq -2$

$f \leq 23$

$23 \leq f \leq 27$

Sam can keep fish ranging from 23 cm to 27 cm.

10.

Let m = the amount of minutes Mai rode her bike.

$15 \leq m + 5 \leq 30$

$15 \leq m + 5$ AND $m + 5 \leq 30$

$10 \leq m$ AND $m \leq 25$

$10 \leq m \leq 25$

Mai will ride her bike from 10 to 25 more minutes.