Manipulating Inequalities

For each of the following decide if the student has written a correct step or an incorrect step

$4x < 12$

$\div 4 \quad \div 4$

$x > 3$

$-4x < 12$

$\div -4 \quad \div -4$

$x > -3$

$-x < 12$

$\div -1 \quad \div -1$

$x < -12$

$12 < -3x$

$\div -3 \quad \div -3$

$-4 > x$

$x + 4 < 12$

$-4 \quad -4$

$x > 8$

$12 < 3x$

$\div 3 \quad \div 3$

$4 < x$

$-4x > 12$

$\div -4 \quad \div -4$

$x < -3$

$x - 4 < 12$

$+4 \quad +4$

$x < 16$

$-4x > -12$

$\div -4 \quad \div -4$

$x < 3$

Now solve these inequalities

$-5x \geq 30$

$40 < -8x$