Quiz 3 Algebra & Trig 2/21/2003

Each problem is worth 5 points. For full credit provide complete justification for your answers.

1. Solve the system of equations $\begin{aligned} 3s - 5t &= -30 \\ 7s + 11t &= 32 \end{aligned}$ by substitution.

$3s - 5t = -30$
$+5t \quad +5t$
$3s = -30 + 5t$
$s = -10 + \frac{5}{3}t$

$7(-10 + \frac{5}{3}t) + 11t = 32$
$-70 + \frac{35}{3}t + 11t = 32$
$-70 + \frac{35}{3}t + \frac{11}{1}\cdot\frac{(3)}{(3)} = 32$
$-70 + \frac{68}{3}t = 32$
$+70 \quad +70$
$\frac{3}{68}\cdot\frac{68}{3}t = \frac{3}{68_2}\cdot\frac{102}{1}$
$\boxed{\frac{9}{2} = t}$

$3s - 5(\frac{9}{2}) = -30$
$3s - \frac{5}{1}\cdot\frac{9}{2} = -30$
$3s = -\frac{45}{2} = -\frac{30}{1}\cdot\frac{(2)}{(2)} + \frac{45}{2}$
$+\frac{45}{2}$
$3s = \frac{-60+45}{2}$
$\frac{3s}{3} = -\frac{15}{2}\cdot\frac{1}{3_1}$
$\boxed{s = -\frac{5}{2}}$

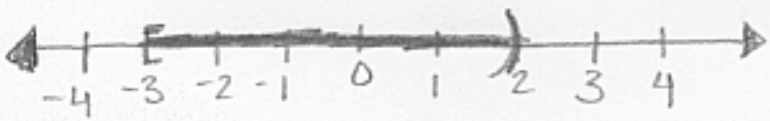
Very nicely done!

✓ $3(-\frac{5}{2}) - 5(\frac{9}{2}) = -30$ Yes!
$-\frac{15}{2} - \frac{45}{2} = -30$
$\frac{-60}{2} = -30$

✓ $7(-\frac{5}{2}) + 11(\frac{9}{2}) = 32$
$-\frac{35}{2} + \frac{99}{2} = 32$
$\frac{64}{2} = 32$

2. Rewrite $-3 \le x < 2$ in interval notation and graph on a number line.

$[-3, 2)$



Great!