

3-7-4 Geometry w/ Algebra

a) $x + 2x - 5 = 9$
 $3x - 5 = 9$
 $\quad +5 \quad +5$

 $3x = 14$
 $x = 4\frac{2}{3}$

b) $\frac{2x+5}{x}$ $2x+5+x=180$
 $3x+5=180$
 $\quad -5 \quad -5$

 $3x = 175$
 $\frac{3x}{3} = \frac{175}{3}$
 $x = 58\frac{1}{3}$

c) $2x-8=3(x-8)$
 $2x-8=3x-24$
 $\quad -2x \quad -2x$

 $-8 = x-24$
 $\quad +24 \quad +24$

 $16 = x$

$3x+85=5(2x-15)$
 $3x+85=10x-75$
 $\quad -3x \quad -3x$

 $85 = 7x-75$
 $\quad +75 \quad +75$

 $160 = 7x$
 $\frac{160}{7} = \frac{7x}{7}$
 $22\frac{6}{7} = x$

$3(2x-5)+x+15=90$
 $6x-15+x+15=90$
 $7x=90$
 $x=12\frac{6}{7}$

$2(3x-5)+3(x+15)=180$
 $6x-10+3x+45=180$
 $9x+35=180$
 $\quad -35 \quad -35$

 $9x = 145$
 $x = 16\frac{1}{9}$


$5(x-2)+3(x-4)=90$
 $5x-10+3x-12=90$
 $8x-22=90$
 $\quad +22 \quad +22$

 $8x = 112$
 $x = 14$


$8x+22=3(4x-12)$
 $8x+22=12x-36$
 $\quad -8x \quad -8x$

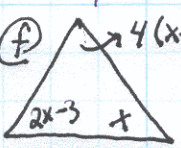
 $22 = 4x-36$
 $\quad +36 \quad +36$

 $58 = 4x$
 $\frac{58}{4} = \frac{4x}{4}$ $x = 14\frac{1}{2}$

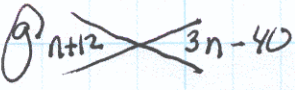
d)  $x+x+40=180$
 $2x+40=180$
 $\quad -40 \quad -40$

 $2x = 140$
 $\frac{2x}{2} = \frac{140}{2}$
 $x = 70^\circ$

e)  $x+x+x=180$
 $3x=180$
 $\frac{3x}{3} = \frac{180}{3}$
 $x = 60^\circ$

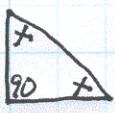
f)  $4(x+2)+x+2x-3=180$
 $4x+8+x+2x-3=180$
 $7x+5=180$
 $\quad -5 \quad -5$

 $7x = 175$
 $\frac{7x}{7} = \frac{175}{7}$
 $x = 25$
 angles $25^\circ, 47^\circ, 108^\circ$

g)  $n+12=3n-40$
 $\quad -n \quad -n$

 $12 = 2n-40$
 $\quad +40 \quad +40$

 $52 = 2n$
 $\frac{52}{2} = \frac{2n}{2}$
 $n = 26$

h)  $90+x+x=180$
 $2x+90=180$
 $\quad -90 \quad -90$

 $2x = 90$
 $\frac{2x}{2} = \frac{90}{2}$
 $x = 45^\circ$

i) $2(5(x-3)+14)+2x+5(x-3)+14=180$
 $2(5x-15+14)+2x+5x-15+14=180$
 $10x-2+7x-1=180$
 $17x-3=180$
 $x = 10\frac{13}{17}$

$90+3x+15+2x=180$
 $5x+105=180$
 $5x=75$
 $x=15$