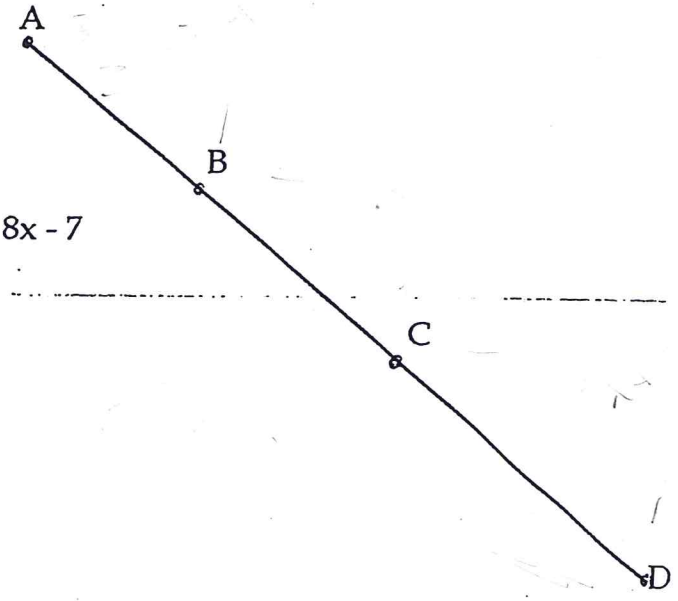
Geometry Worksheet
Chapter 2.1-2 - Algebra Application

Segment Addition (1-2)

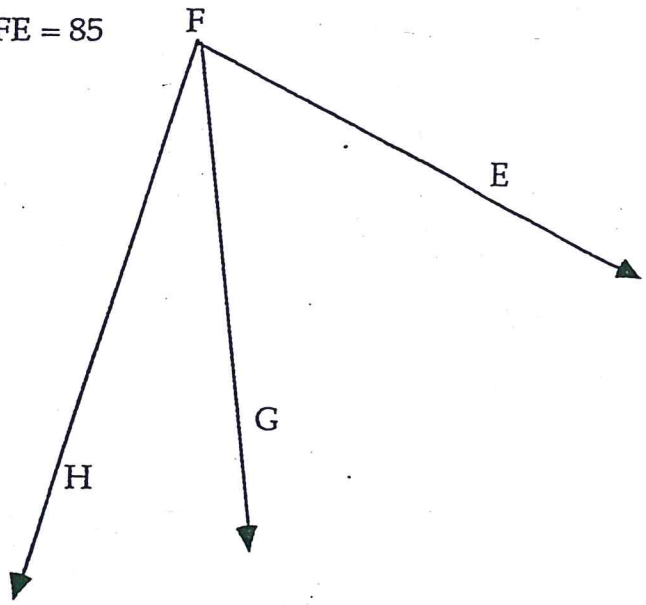
1. AB = x, BC = 3x, CD = 2x + 8 and AD = 22
Find CD.



2. AB = 3, BC = 2x + 3, CD = 3x + 5 and AD= 8x - 7
Find AD.

Angle Addition (3-4)

3. m<HFG = 2x - 7, m<GFE = 3x + 2, and m<HFE = 85
Find m<GFE.



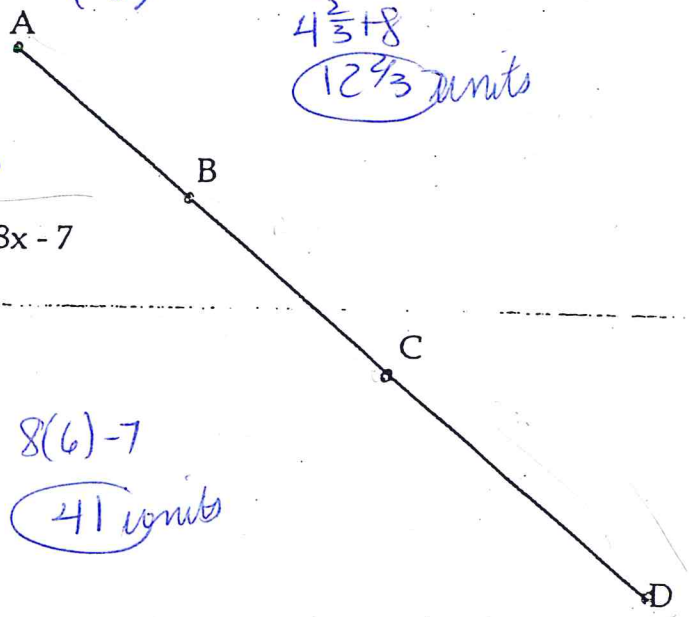
4. m<HFG = 2x, m<GFE = 4x + 13,
and m<HFE = 8x - 7
Find m<HFE.

Geometry Worksheet
Chapter 2.1-2 - Algebra Application

1. AB = x, BC = 3x, CD = 2x + 8 and AD = 22
Find CD.

$x+3x+2x+8=22$
$6x+8=22$
$6x=14$
$x=\frac{14}{6}=\frac{7}{3}$ or $2\frac{1}{3}$

$CD=2\left(\frac{7}{3}\right)+8=\frac{14}{3}+8$
$4\frac{2}{3}+8$
$12\frac{2}{3}$ units



2. AB = 3, BC = 2x + 3, CD = 3x + 5 and AD= 8x - 7
Find AD.

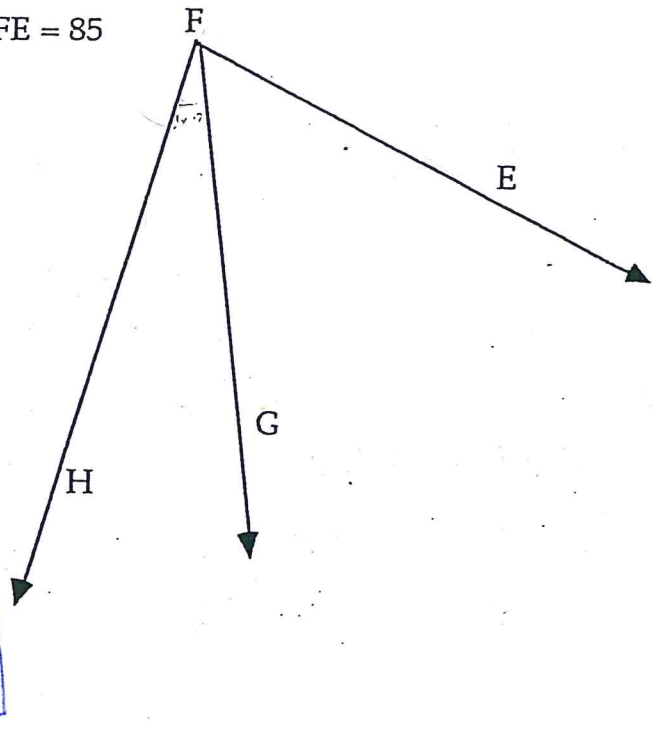
$3+2x+3+3x+5=8x-7$
$5x+11=8x-7$
$-5x \quad -5x$
$11=3x-7$
$18=3x$
$x=6$

$8(6)-7$
41 units

3. m<HFG = 2x - 7, m<GFE = 3x + 2, and m<HFE = 85
Find m<GFE.

$2x-7+3x+2=85$
$5x-5=85$
$5x=90$
$x=18$

$3(18)+2=56^\circ$



4. m<HFG = 2x, m<GFE = 4x + 13,
and m<HFE = 8x - 7
Find m<HFE.

$2x+4x+13=8x-7$
$6x+13=8x-7$
$20=2x$
$x=10$
$8(10)-7=73^\circ$

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