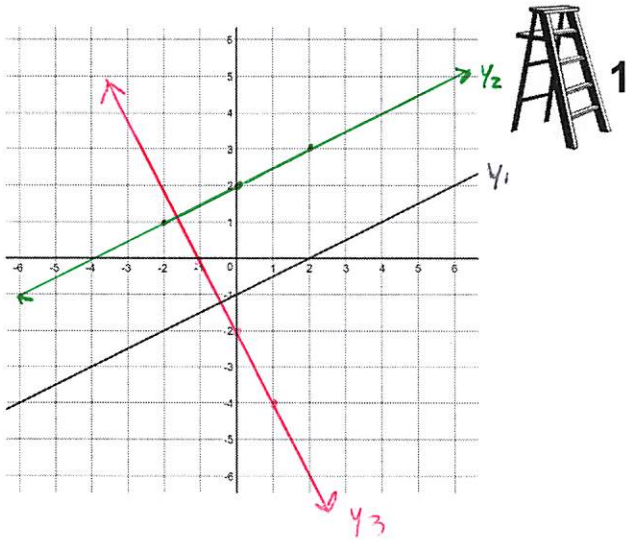
Climb the Ladder

Key



1

1. Write the equation of a line y_2 so that $y_2 \parallel y_1$ and passes through (-2, 1).

$m = \frac{1}{2}$

$y_2 = \frac{1}{2}x + b$

$1 = \frac{1}{2}(-2) + b$

$1 = -1 + b$

$b = 2$

$\therefore y_2 = \frac{1}{2}x + 2$

2. Graph y_2 on the grid provided.

3. Write the equation of a line y_3 so that $y_3 \perp y_1$ and passes through (1, -4).

$m = -2$

$y_3 = -2x + b$

$-4 = -2(1) + b$

$b = -2$

$\therefore y_3 = -2x - 2$

4. Graph y_3 on the grid provided.

5. Check for perpendicularity by measuring angles where y_1 and y_3 intersect.

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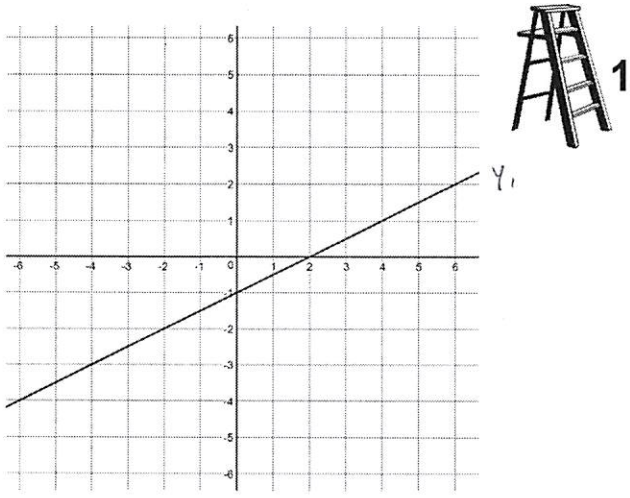

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2. Graph y_2 on the grid provided.

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Solve for the missing variables in each problem.

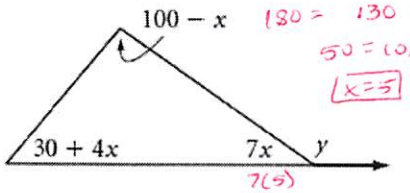
1. $y =$ 145°

$180 = 100 - x + 7x + 30 + 4x$

$180 = 130 + 10x$

$50 = 10x$

$x = 5$

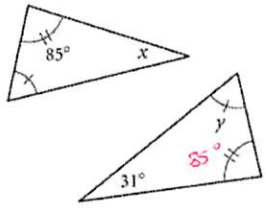


$7(5) = 35°$

$y = 180 - 7(5)$

$y = 145°$

2. $x =$ 31°, $y =$ 64°



$31° + 85° + y° = 180°$

$116° + y = 180°$

$y = 64°$

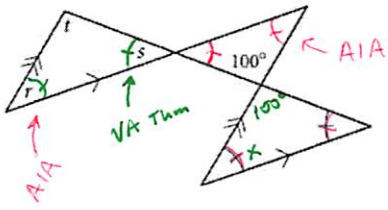
$x + 64° + 85° = 180°$

$x + 149° = 180°$

$x = 31°$

3. $r =$ 40°, $s =$ 40°,

$t =$ 100°



$100° + 2x = 180°$

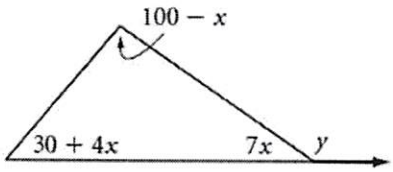
$2x = 80°$

$x = 40°$

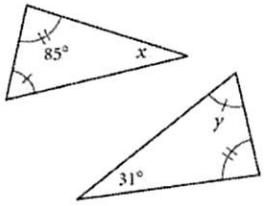
Climb the Ladder

Solve for the missing variables in each problem.

1. $y =$ _____

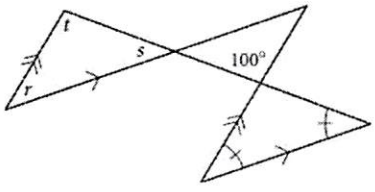


2. $x =$ _____, $y =$ _____



3. $r =$ _____, $s =$ _____,

$t =$ _____



Key

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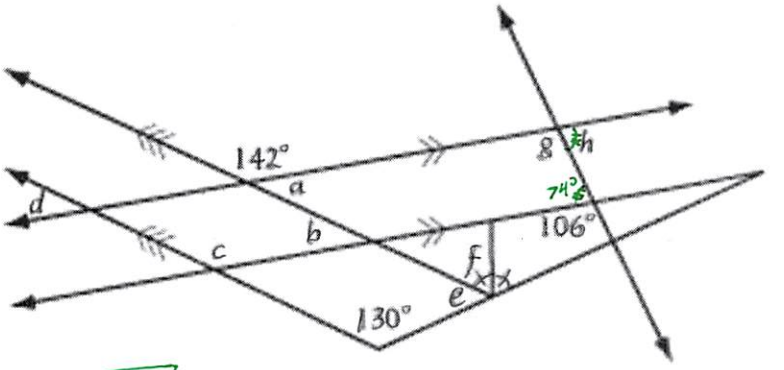
3

Find the angle measures.



a. $142 + a = 180 \rightarrow \boxed{a = 38°}$

b. $\boxed{38°}$ (AIA w/ a)

c. $38° + c = 180° \rightarrow \boxed{c = 142°}$ (SSI)

d. $\boxed{38°}$

e. $130° + e = 180° \rightarrow \boxed{e = 50°}$ (SSI)

f. $e + 2f = 180° \rightarrow 50° + 2f = 180° \rightarrow \boxed{f = 65°}$

g. $\boxed{106°}$ (CA w/ 106°)

h. $\boxed{74°}$ (AIA w/ 74° or Supp. w/ g)

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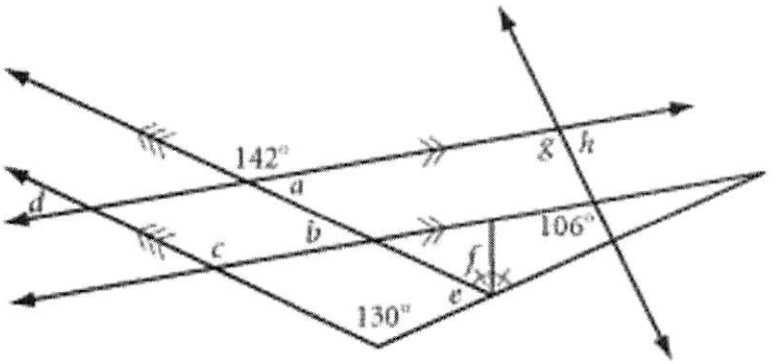
3

Find the angle measures.



a.

b.

c.

d.

e.

f.

g.

h.