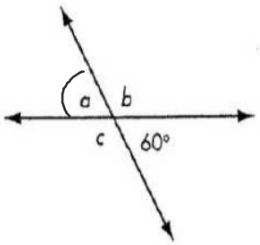
Find the angle measure for each letter.

1.

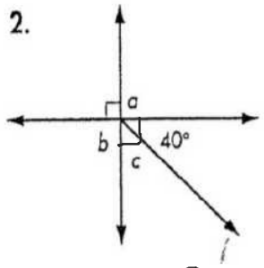


$a = 60^\circ$

$b = 120^\circ$

$c = 120^\circ$

2.

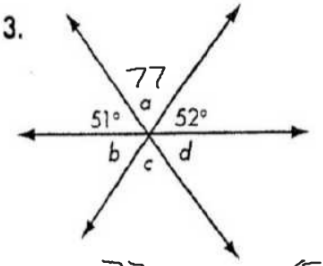


$a = 90^\circ$

$b = 90^\circ$

$c = 50$

3.

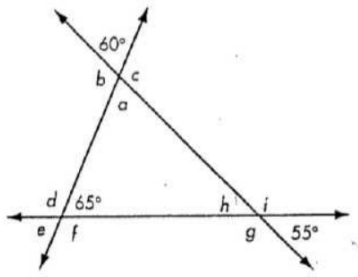


$a = 77$ $b = 52$

$C = 77$ $d = 51$

Find the angle measure for each letter.

4.

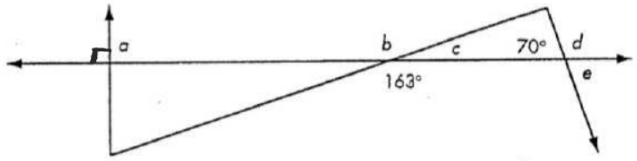


a = 60 d = 115 h = 55

b = 120 e = 65 i = 125

c = 120 f = 115 g = 125

5.



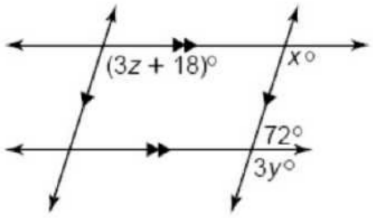
a = 90 d = 110

b = 163 e = 70

c = 17

Find the values of x, y and z in each figure.

11.



$x + 72 = 180$

$x = 108$

$3y = x$

$3y = 108$

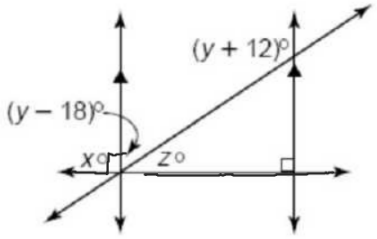
$y = 36$

$3z + 18 = 108$

$3z = 90$

$z = 30$

12.



$x = 90$

$y - 18 + y + 12 = 180$

$2y - 6 = 180$

$2y = 186$

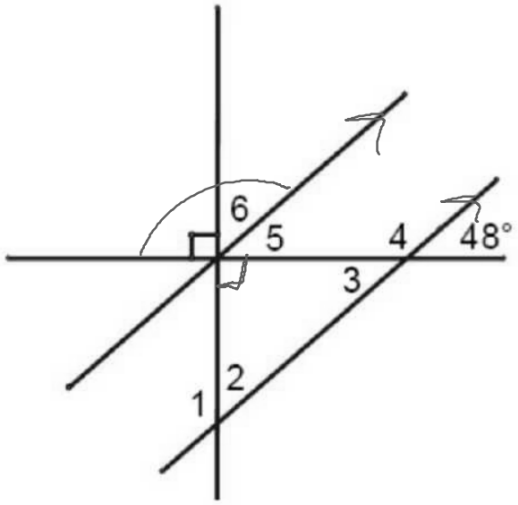
$y = 93$

$y - 18 + z = 90$

$93 - 18 + z = 90$

$z = 15$

2. Given the information in the sketch that follows, find the measure of all angles.



1. m<1 = 138
2. m<2 = 42
3. m<3 = 48
4. m<4 = 132
5. m<5 = 48°
6. m<6 = 42

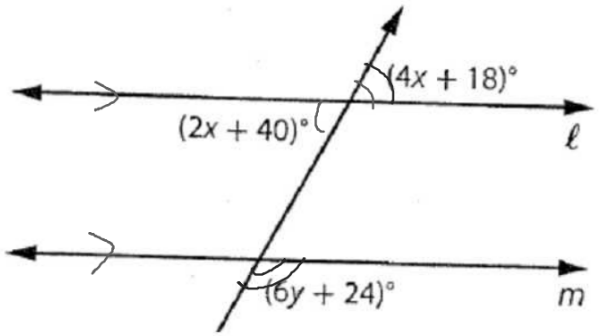
6. If lines ℓ and m are parallel, find the values of x and y in the diagram to the right.

$2x + 40 = 4x + 18$

$40 = 2x + 18$

$22 = 2x$

$x = 11$



$6y + 24 + 44 + 18 = 180$

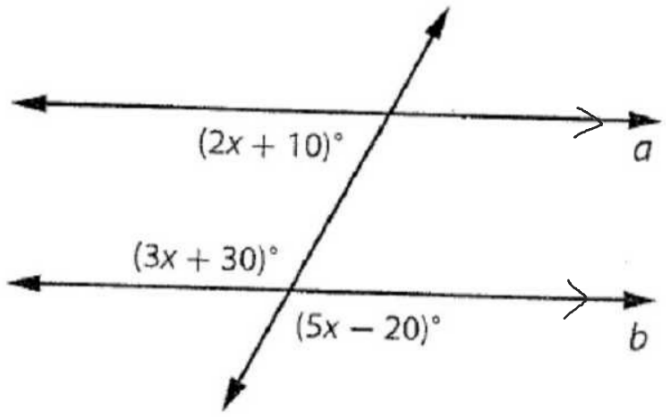
$6y + 86 = 180$

$6y = 94$

$y = 15.\overline{6}$

b. Are lines a and b parallel? Explain your reasoning.

Not ||



$2x+10+3x+30=180$

$5x+40=180$

$5x=140$

$x=28$

$3x+30=5x-20$

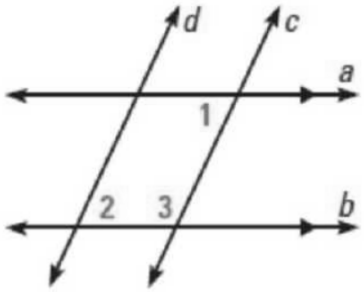
$30=2x-20$

$50=2x$

$x=25$

GIVEN ▶ $a \parallel b, \angle 1 \cong \angle 2$

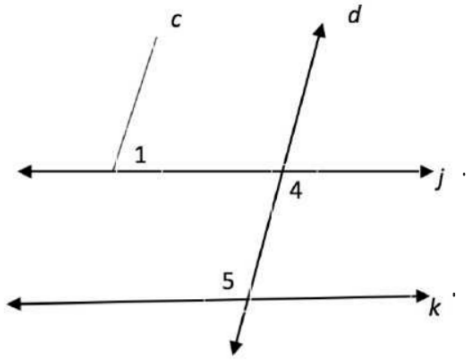
PROVE ▶ $c \parallel d$



Statement	Reason
1) a∥b ∠1≅∠2	1) Given
2) ∠1 and ∠3 are Supplementary	2) Same-side Interior ∠'s
3) m∠1+m∠3=180	3) Def of Supp ∠'s.
4) m∠2+m∠3=180	4) Substitution
5) ∠2 and ∠3 are Supp	5) Def of Supp ∠'s.
6) c∥d	6) If Same-Side Interior ∠'s are Supp then lines are ∥.

5. Given: $\angle 1$ *and* $\angle 5$ *are Supplementary*
$\angle 1$ *and* $\angle 4$ *are Supplementary*

Prove: $j \parallel k$



Statement	Reason
1) $\angle 1 + \angle 5$ are Supp. $\angle 1 + \angle 4$ are Supp.	1) Given
2) $m\angle 1 + m\angle 5 = 180$ $m\angle 1 + m\angle 4 = 180$	2) Def of Supp $\angle$'s.