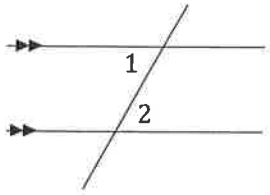
Key

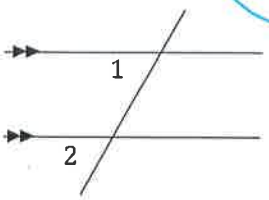
Let's take it up a notch... for each, write the angle relationship you see in the picture and a statement of whether the angles are equal or add to 180°.

1. This one is done for you so you know what to do.



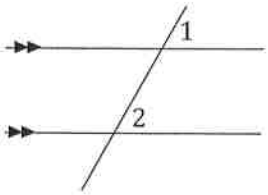
Alternate interior, $m\angle 1 = m\angle 2$

2.



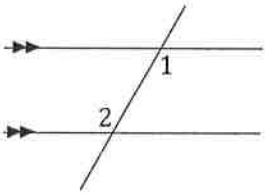
Corresponding, $m\angle 1 = m\angle 2$

3.



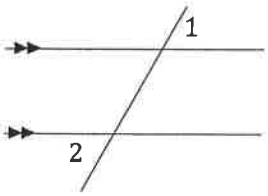
Corresponding, $m\angle 1 = m\angle 2$

4.



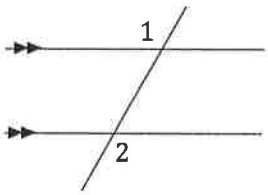
alternate interior, $m\angle 1 = m\angle 2$

5.



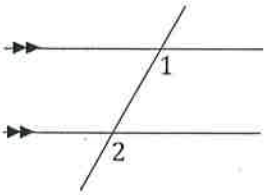
alternate exterior, $m\angle 1 = m\angle 2$

6.



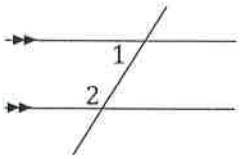
alternate exterior, $m\angle 1 = m\angle 2$

7.



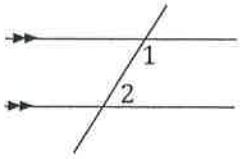
corresponding, $m\angle 1 = m\angle 2$

8.



Consecutive interior, $m\angle 1 + m\angle 2 = 180$

9.

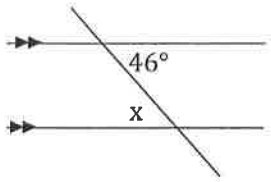


Consecutive interior, $m\angle 1 + m\angle 2 = 180$

Great job!!

On these state the angle relationship, write a statement about whether they add to 180° or are equal, and solve for x if necessary.

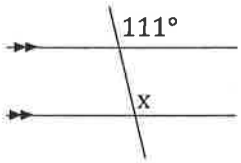
1. This one is done for you so you know what to do.



Alternate interior

46°=x

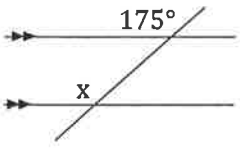
3.



corresponding

X = 111°

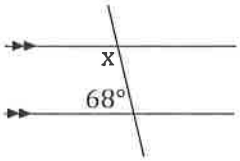
6.



Corresponding

X = 175°

2.

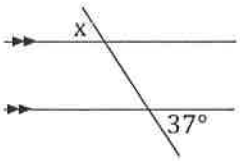


Consecutive interior

X + 68 = 180

X = 112°

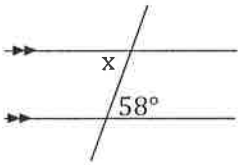
4.



alternate exterior

X = 37°

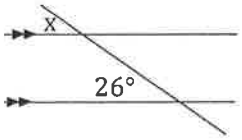
5.



alternate interior

X = 58°

7.



corresponding

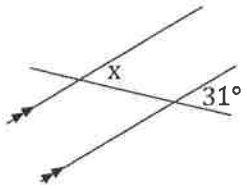
X = 26°

Bubble all the correct answers from above. Don't bubble incorrect answers.

●37° ○143° ○69° ●46° ●175° ○122° ●58° ○68° ○154° ●26° ○64° ●112° ○75° ●111°

Don't worry about these, they are just rotated.

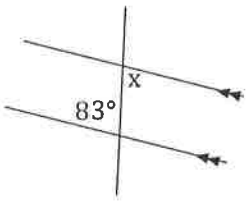
8.



corresponding

$x = 31°$

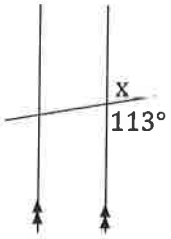
9.



alternate interior

$x = 83°$

10.

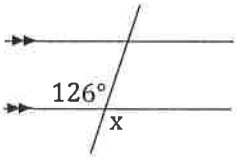


linear pair

$x + 113 = 180$

$x = 67°$

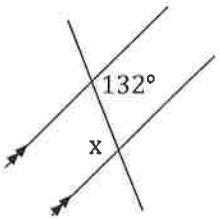
11.



vertical angles

$x = 126°$

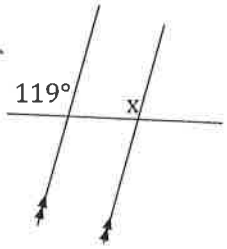
12.



alternate interior

$x = 132°$

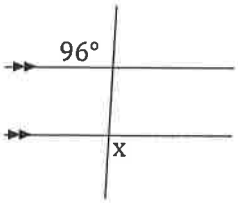
13.



corresponding

$x = 119°$

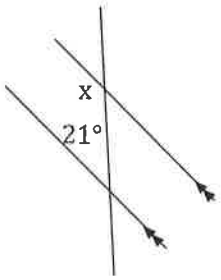
14.



alternate exterior

$x = 96°$

15.



consecutive interior

$x + 21 = 180$

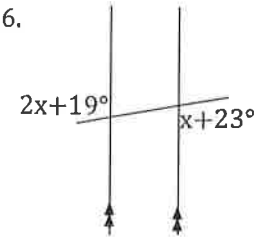
$x = 159°$

Bubble all the correct answers from above. Don't bubble incorrect answers.

● 31° ● 132° ○ 54° ● 96° ● 159° ○ 122° ● 83° ● 119° ○ 154° ○ 113° ● 67° ○ 52° ○ 58° ● 126°

On these state the angle relationship, write a statement about whether they add to 180° or are equal, and find the value of x.

16.



Alternate exterior

$2x+19°=x+23°$

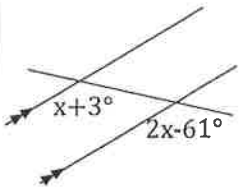
$-x \quad -x$

$x+19°=23°$

$-19°-19°$

$x=4°$

17.

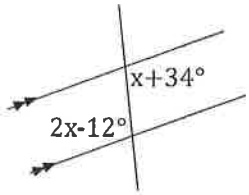


corresponding

$x+3 = 2x-61$

$64 = x$

18.

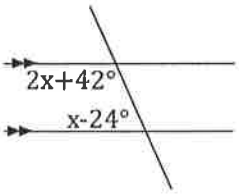


alternate interior

$2x-12 = x+34$

$x = 46$

19.



consecutive interior

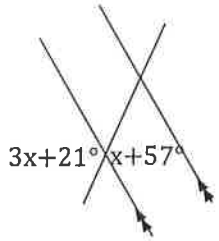
$2x+42+x-24 = 180$

$3x + 18 = 180$

$3x = 162$

$x = 54$

20.



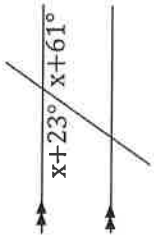
vertical angles

$3x+21 = x+57$

$2x = 36$

$x = 18$

21.



linear pair

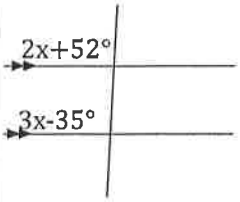
$x+23+x+61 = 180$

$2x+84 = 180$

$2x = 96$

$x = 48$

22.



corresponding

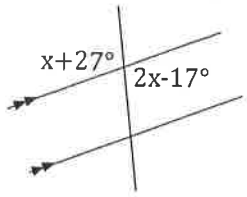
$2x+52 = 3x-35$

$87 = x$

Bubble all the correct answers from above. Don't bubble incorrect answers.

○72° ●4° ○12° ●46° ●18° ●64° ●54° ○42° ○30° ●48° ○97° ○28° ●87° ○83°

23.

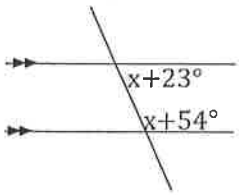


vertical ∠s

$x + 27 = 2x - 17$

$44 = x$

24.



Consecutive interior

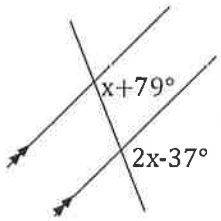
$x + 23 + x + 54 = 180$

$2x + 77 = 180$

$2x = 103$

$x = 51.5$

25.

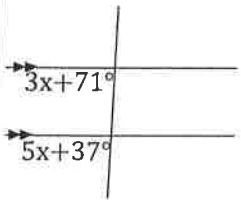


Corresponding

$x + 79 = 2x - 37$

$116 = x$

26.



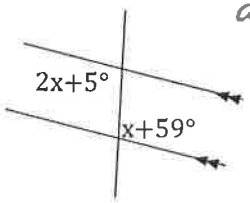
Corresponding

$3x + 71 = 5x + 37$

$34 = 2x$

$17 = x$

27.

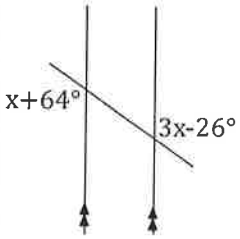


alternate interior

$2x + 5 = x + 59$

$x = 54$

28.



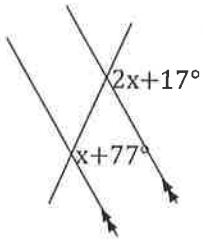
alternate exterior

$x + 64 = 3x - 26$

$90 = 2x$

$45 = x$

29.

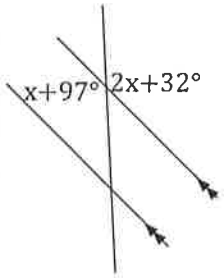


Corresponding

$2x + 17 = x + 77$

$x = 60$

30.



vertical angles

$x + 97 = 2x + 32$

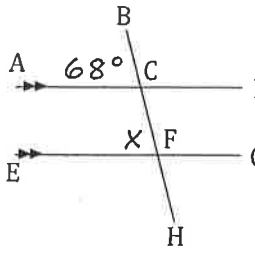
$65 = x$

Bubble all the correct answers from above. Don't bubble incorrect answers.

○31° ●116° ○20° ●17° ●54° ○98° ●51.5° ●45° ●60° ○72.5° ●65° ●44° ○30.5° ○24°

Mark the diagram with the given information, state the angle relationship, and then solve for the indicated angle.

31. m∠ACB is 68° Find the m∠EFC.

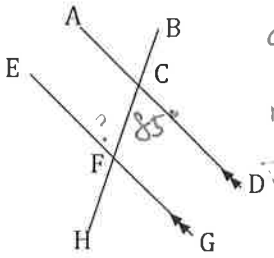


Corresponding

m∠ACB=m∠EFC

68°=m∠EFC

32. m∠DCH=85° Find m∠BFE.

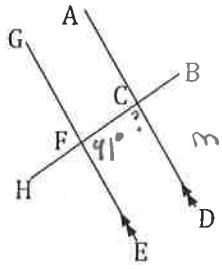


alternate interior

m∠BFE = m∠DCH

m∠BFE = 85°

33. m∠EFB=91° Find m∠DCH.



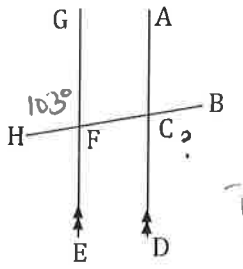
consecutive interior

m∠EFB + m∠DCH = 180

91 + m∠DCH = 180

m∠DCH = 89°

34. m∠HFG=103° Find m∠BCD.

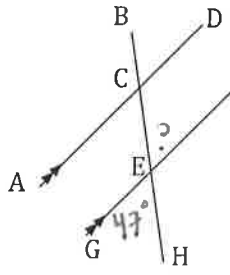


alternate exterior

m∠BCD = m∠HFG

m∠BCD = 103°

35. m∠GEH=47° Find m∠BEF.

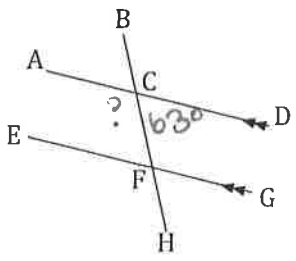


vertical ∠s

m∠GEH = m∠BEF

47° = m∠BEF

36. m∠DCH=63° Find m∠ACH.



linear pair

m∠DCH + m∠HCH = 180

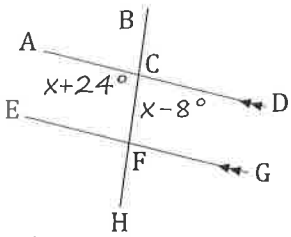
63 + m∠HCH = 180

m∠HCH = 117°

Bubble all the correct answers from above. Don't bubble incorrect answers.

○112° ○95° ○91° ○89° ○47° ○103° ○63° ○68° ○77° ○85°

37. m∠ACH=X+24°, m∠DCH=X-8°. Find m∠ACH.



$\frac{2x}{2}=\frac{164°}{2}$

$x=82°$

$m\angle ACH=x+24°$

$m\angle ACH=82+24°$

$m\angle ACH=106°$

Linear Pair

$m\angle ACH+m\angle DCH=180°$

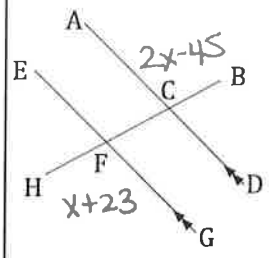
$(x+24°)+(x-8°)=180°$

$x+24°+x-8°=180$

$2x+16°=180°$

$-16° \quad -16°$

38. m∠ACB=2X-45°, m∠HFG=X+23°. Find m∠HFG.



alternate exterior ∠s

$m\angle ACB = m\angle HFG$

$2x-45 = x+23$

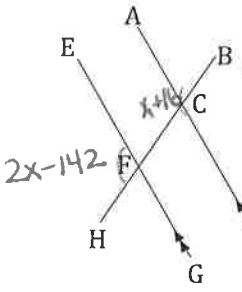
$x = 68$

$m\angle HFG = x+23$

$= 68+23$

$m\angle HFG = 91°$

39. m∠EFH=2X-142°, m∠ACH=X+16°. Find m∠ACH.



corresponding ∠s

$m\angle EFH = m\angle ACH$

$2x-142 = x+16$

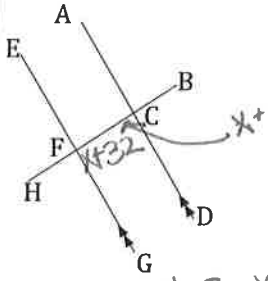
$x = 158$

$m\angle ACH = x+16$

$= 158+16$

$m\angle ACH = 174°$

40. m∠GFB=x+32°, m∠DCH=X+24°. Find m∠DCH.



consecutive interior ∠s

$m\angle GFB + m\angle DCH = 180$

$x+32 + x+24 = 180$

$2x+56 = 180$

$2x = 124$

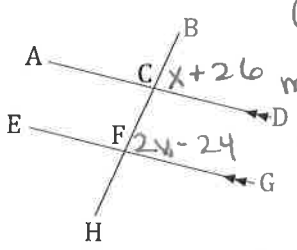
$x = 62$

$m\angle DCH = x+24$

$= 62+24$

$m\angle DCH = 86°$

41. m∠BCD=X+26°, m∠BFG=2X-24°. Find m∠BFG.



corresponding ∠s

$m\angle BCD = m\angle BFG$

$x+26 = 2x-24$

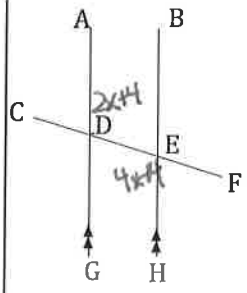
$50 = x$

$m\angle BFG = 2x-24$

$= 2(50)-24$

$m\angle BFG = 76°$

42. m∠ADF=2X+4°, m∠HEC=4X-14°. Find m∠HEC.



alternate interior ∠s.

$m\angle ADF = m\angle HEC$

$2x+4 = 4x-14$

$18 = 2x$

$9 = x$

$m\angle HEC = 4x-14$

$= 4(9)-14$

$m\angle HEC = 22°$

Bubble all the correct answers from above. Don't bubble incorrect answers.

○ 76° ○ 110° ○ 91° ○ 94° ○ 106° ○ 97° ○ 22° ○ 165° ○ 86° ○ 92°