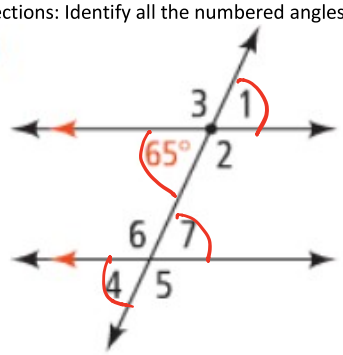
Transversals – Properties of Parallel Lines

Hw Section 3.2 Name_____

Directions: Identify all the numbered angles that are congruent to the given angle. JUSTIFY your answer.

1)

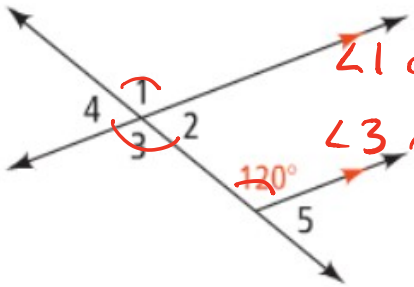


∠1 vertical ∠s Thm

∠7 Alt. Int ∠s Thm

∠4 corr. ∠s post.

2)

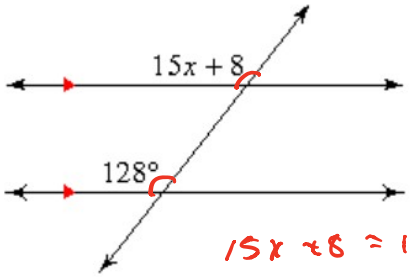


∠1 corr. ∠s post.

∠3 Alt. Int. ∠s Thm

Directions: Solve for x.

3)

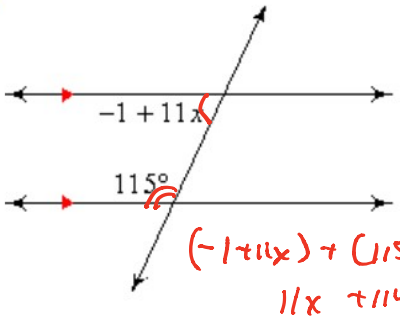


$15x + 8 = 128$

$15x = 120$

$x = 8$

4)



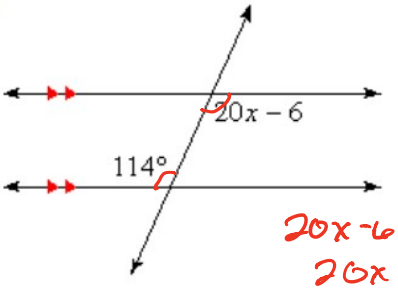
$(-1+11x) + (115) = 180$

$11x + 114 = 180$

$11x = 66$

$x = 6$

5)

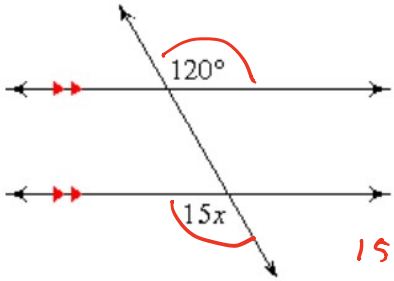


$20x - 6 = 114$

$20x = 120$

$x = 6$

6)

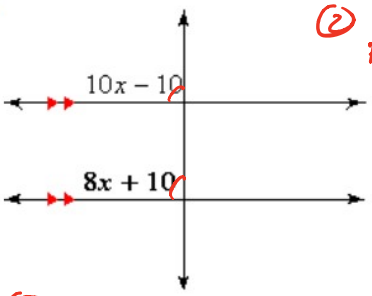


$15x = 120$

$x = 8$

Directions: Find the measure of the angle indicated in bold.

7)



② Find $8x + 10$

$= 8(10) + 10$

$= 80 + 10$

$= 90$

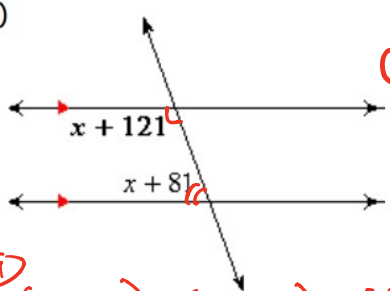
① $10x - 10 = 8x + 10$

$2x - 10 = 10$

$2x = 20$

$x = 10$

8)



③ Find $x + 121$

$= (-11) + 121$

$= 110$

① $(x + 121) + (x + 81) = 180$

$2x + 202 = 180$

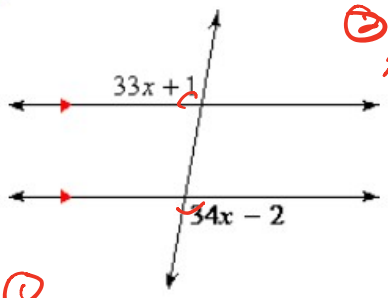
$x + 101 = 90$

$x = -11$

Transversals – Properties of Parallel Lines

Hw Section 3.2 Name_____

9)



① $33x+1 = 34x-2$

$1 = x-2$

$3 = x$

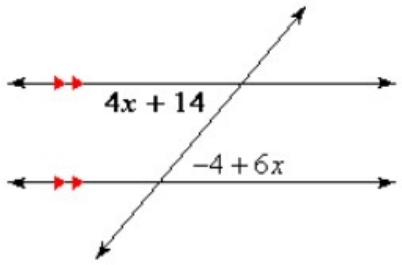
② FIND $34x-2$

$= 34(3)-2$

$= 102-2$

$= 100$

10)



① $4x+14 = -4+6x$

$14 = -4+2x$

$18 = 2x$

$9 = x$

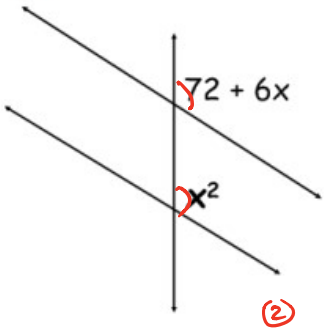
② FIND $4x+14$

$= 4(9)+14$

$= 36+14$

$= 50$

11)



① $x^2 = 72+6x$

$x^2-6x-72 = 0$

$(x-12)(x+6) = 0$

$x-12=0$ | $x+6=0$

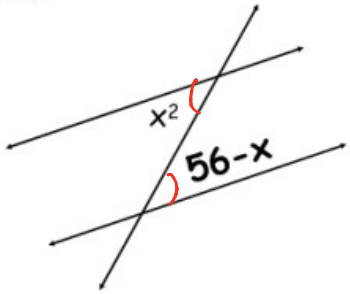
$x=12$ | $x=-6$

② FIND x^2

$x^2=(12)^2$ $x^2=144$

$x^2=(-6)^2$ $x^2=36$

12)



① $x^2 = 56-x$

$x^2+x-56 = 0$

$(x+8)(x-7) = 0$

$x+8=0$ | $x-7=0$

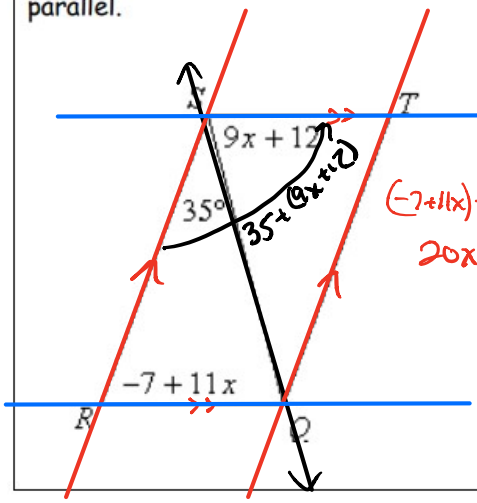
$x=-8$ | $x=7$

② FIND

$56-x$ $= 56-(-8)$ $= 64$

$56-x$ $= 56-(7)$ $= 49$

13) Solve for x. Opposite sides of the figure are parallel.



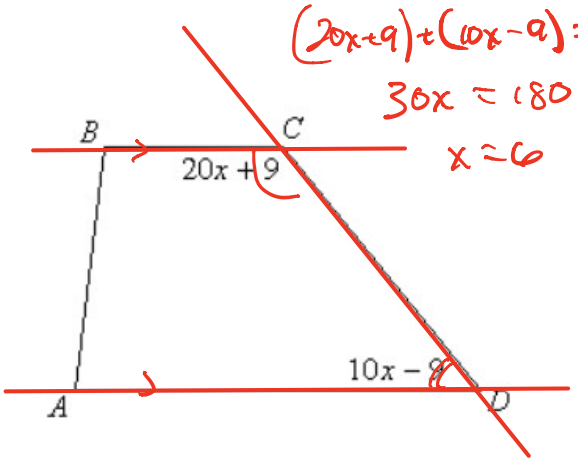
$(-7+11x)+(35+9x+12) = 180$

$20x+40 = 180$

$20x = 140$

$x = 7$

14) Solve for x. The top and bottom sides are parallel.



$(20x+9)+(10x-9) = 180$

$30x = 180$

$x = 6$

Algebra Review

Solve: $2 = \frac{x}{3} - 4$ ·3 ·3

$6 = x-12$

$18 = x$

Solve: $15 = 2x - 13$

$28 = 2x$

$14 = x$

Factor: $k^2 + 14k + 45$

$= (k+9)(k+5)$