1.4 DAY 3 GROUP PRACTICE NAMES: Me

DIRECTIONS: PLEASE WORK IN YOUR GROUPS TO COMPLETE THIS PRACTICE WORKSHEET. EACH MEMBER IN THE GROUP SHOULD BE ON THE SAME PROBLEM AT THE SAME TIME. PLEASE SHOW ALL WORK AND CIRCLE YOUR FINAL ANSWER. WHEN YOU SEE THE STAR, ONE PERSON FROM EACH GROUP BRINGS UP ALL YOUR PAPERS TO MISS PALUMBO TO EARN A RAFFLE TICKET!

1. Write an expression in simplest form for the supplement and complement of $(x-20)$.

Supp:
$180-(x-20)$
$180-x+20$
$(200-x)^\circ$

Comp:
$90-(x-20)$
$90-x+20$
$(110-x)^\circ$

2. The measure of an angle is 6 less than 5 times the measure of the supplement of an angle. Find the measure of the supplement.

angle $= x$
supp $= 180-x$

$x = 5(180-x)-6$
$x = 900-5x-6$
$x = 894-5x$
$6x = 894$
$x = 149$

angle: $x = 149^\circ$
supp: $180-149$
31°

3. The measure of an angle added to twice its supplement is 3 less than 7 times its complement. Find the measure of the complement.

angle: x
comp: $90-x$
supp: $180-x$

$x+2(180-x) = 7(90-x)-3$
$x+360-2x = 630-7x-3$
$-x+360 = 627-7x$
$6x = 267$
$x = 44.5$

angle $= 44.5^\circ$
comp $= 90-44.5$
45.5°

4. Two times an angle plus its complement is 44 less than its supplement. Find the measure of the supplement.

angle: x
Comp: $90-x$
Supp: $180-x$

$2x+90-x = 180-x-44$
$x+90 = 136-x$
$2x = 46$
$x = 23$

angle $= 23^\circ$
supp $= 180-23$
$= 157^\circ$

5. The complement of an angle is one-third of the supplement of the angle. Find the measure of the complement.

angle $= x$
comp $= 90-x$
supp $= 180-x$

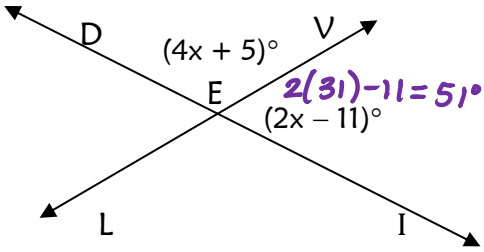
$90-x = \frac{1}{3}(180-x)$
$90-x = 60-\frac{1}{3}x$
$\frac{3}{2}\cdot 30 = \frac{2}{3}x\cdot\frac{3}{2}$
$45 = x$

angle $= 45^\circ$
comp $= 90-45$
$= 45^\circ$

6. The ratio of the measures of two complementary angles is 3:5. What is the measure of each angle?

$3x+5x=90$
$8x=90$
$x=11.25$
$3(11.25)=33.75°$
$5(11.25)=56.25°$
$90°$ ✓

7. Use the diagram to the right to find the m∠DEL.

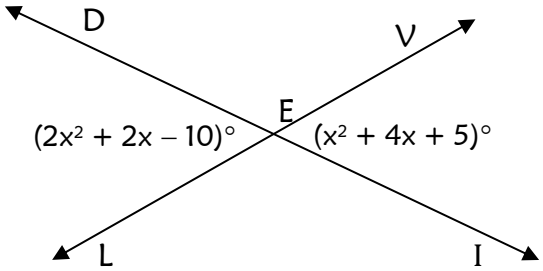


★Linear Pair Angles:
$4x+5+2x-11=180$
$6x-6=180$
$6x=186$
$x=31$

$2(31)-11=51°$

Since ∠VEI and ∠DEL are vertical angles, they are ≅.
Therefore, $m\angle DEL=51°$

8. Use the diagram to the right to find the m∠DEV.



★Vertical ∠s:
$2x^2+2x-10=x^2+4x+5$
$x^2-2x-15=0$
$(x-5)(x+3)=0$
$x=5 \quad x=-3$

Need to check both values of x:
If $x=5$, then
$m\angle VEI=(5)^2+4(5)+5=50°$
therefore $m\angle DEV=130°$
If $x=-3$, then
$m\angle VEI=(-3)^2+4(-3)+5=2°$
therefore $m\angle DEV=178°$

9. ∠ZOT and ∠ZOY are complementary to ∠C. $m\angle ZOT=(2x+9)°$ and $m\angle ZOY=(3x+6)°$. Find m∠C.

This means:
$m\angle ZOT+m\angle C=90°$
$m\angle ZOY+m\angle C=90°$
same ∠

These 2 ∠s must be equal to each other

$2x+9=3x+6$
$3=x$
$m\angle ZOT=2(3)+9=15°$
$m\angle ZOY=3(3)+6=15°$
so $m\angle C=90-15$
$m\angle C=75°$

HONESTLY RATE YOURSELF ☺

On a scale of 1-5 (5 being "I totally get it!" and 1 being "I have no clue!"), rate yourself on the following:

Linear Pair Angles	1	2	3	4	5
Vertical Angles	1	2	3	4	5
Complementary Angles	1	2	3	4	5
Supplementary Angles	1	2	3	4	5

I still need help with the following: _____

_____

What are you going to do to make sure you better understand the topic you still need help with?

_____