Extra: IDB solutions.

IDA	IDB
1	16
2	15
3	14
4	20
5	9
6	1
7	7
8	19
9	4
10	11
11	17
12	6
13	13
14	8
15	10
16	3
17	2
18	5
19	12
20	18

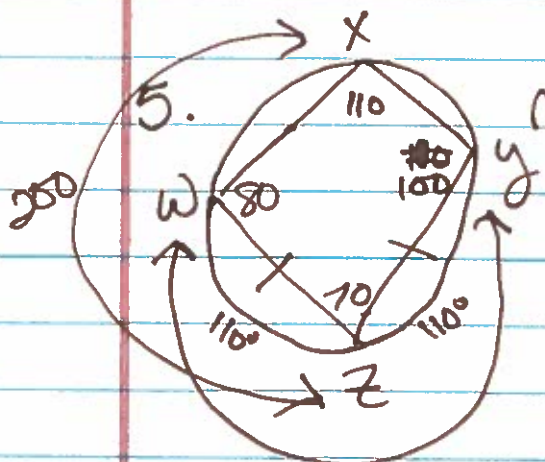
IDA

1. $360 - 118 = \frac{242}{2} = \boxed{121°}$

2. $x = \frac{1}{2}(85+145) = \boxed{115°}$

3. $\angle MJL + \angle MKL$
   $\angle JMK + \angle JLK$

4. $x(x+8) = 6(8)$
   $x^2+8x = 48$
   $0 = x^2+8x-48$
   $\frac{-8 \pm \sqrt{64-4(1)(-48)}}{2(1)}$
   $\frac{-8 \pm 16}{2} = (4)$

5. 

not drawn to scale.

$2 \cdot 110 = 220$

$\frac{220}{2} = 110°$

$110 + z = 180$

$z = 70$

$wz = 110°$

$180 + w = 180$

$w = 80$

$wx = 200 - 110$

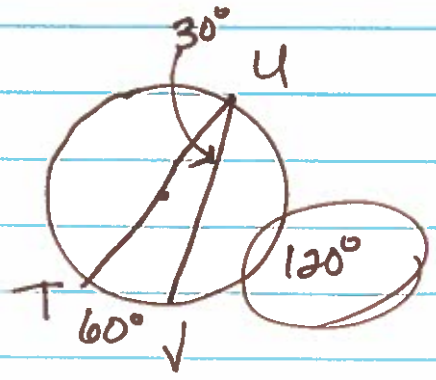
$\boxed{90°}$

6.

7. $\frac{260}{2} = 130°$

8.

9.



10. $(\sqrt{3})^2 = x(x+2)$

$3 = x^2+2x$

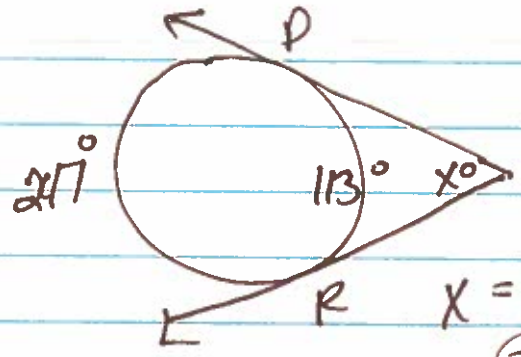
$0 = x^2+2x-3$

$\frac{-2 \pm \sqrt{4-4(1)(-3)}}{2(1)}$

$\frac{-2 \pm \sqrt{4+12}}{2}$

$\frac{-2 \pm 4}{2}$ $\frac{2}{2} = 1$

11.



$360 - 247 = 113°$

$x = \frac{1}{2}(247 - 113)$

$= 67$

12. $110° + \angle D = 180$

$\angle D = 70$

$80 + \angle C = 180$

$\angle C = 100°$

13. $5(12) = x(x+4)$

$60 = x^2 + 4x$

$0 = x^2 + 4x - 60$

$\frac{-4 \pm \sqrt{16 - 4(1)(-60)}}{2(1)}$

$\frac{-4 \pm \sqrt{256}}{2}$

$\frac{-4 \pm 16}{2}$ $\quad \frac{12}{2} = 6$

14. $x(x+12) = (x+4)^2$

$x^2+12x = x^2+4x+4x+16$

$x^2+12x = x^2+8x+16$

~~$-12x-$~~

$12x = 8x+16$

$4x = 16$

$x = 4$

15. $x = \frac{1}{2}(106+120)$

$= 113°$

16. $9(9+15) = 8(x)$

$9(24)$

$216 = 8x$

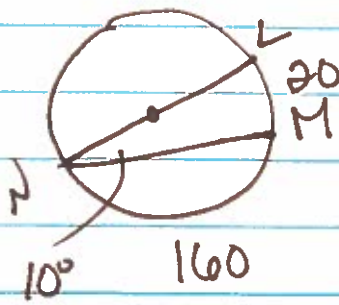
$27 = x$

17. $8(19) = 7(x)$

$152 = 7x$

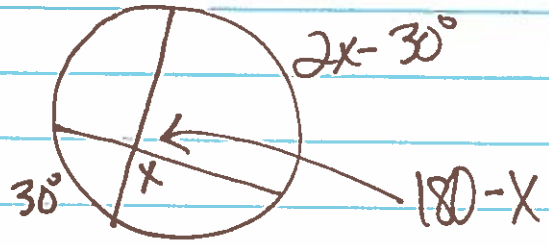
$21.7 = x$

18.



~~44~~ $\angle N = 10°$

19.



$180 - x = \frac{1}{2}(2x - 30 + 30)$

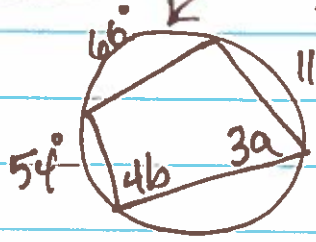
$180 - x = x$

$180 = 2x$

$90 = x$

$360 - (54 + 110 + 130) = 66!!$

20.



$4b = \frac{1}{2}(66 + 110)$ (130°)

$b = 22$

$3a = \frac{1}{2}(54 + 66)$

$a = 20$

10.7 quiz

1. A $x^2+y^2=3^2$

$\boxed{x^2+y^2=9}$

B $x^2+y^2=8^2$

$\boxed{x^2+y^2=64}$

2. $(x--4)^2+(y--1)^2=3^2$

B → $\boxed{(x+4)^2+(y+1)^2=9}$

A → $(x--3)^2+(y--4)^2=6^2$

$\boxed{(x+3)^2+(y+4)^2=36}$

3. A → $(x+4)^2+(y+4)=16$

B → $(x+3)^2+(y+5)^2=25$

4. A → $(x+4)^2 + (y-3)^2 = 49$

B → $(x+4)^2 + (y-3)^2 = 49$

5. A → $(x-5)^2 + (y-2)^2 = 25$ r=5 blocks

B → $(x+4)^2 + (y-6)^2 = 16$ r=4 blocks

6. A+B center (4,-3) radius 5.