1

Section 2.8

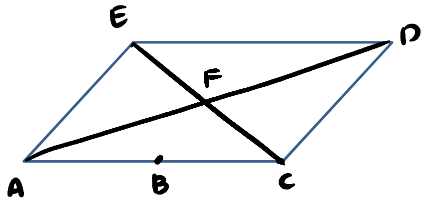
pg. 102: 1, 2, 3, 7, 12, 13, 15 pg. 97: 5, 7, 12

#1 Name 3 pairs of opposite rays

$\overrightarrow{FE}, \overrightarrow{FC}$

$\overrightarrow{FD}, \overrightarrow{FA}$

$\overrightarrow{BA}, \overrightarrow{BC}$



Name 2 pairs of vertical ∡'s

∡ EFA and ∡ CFD

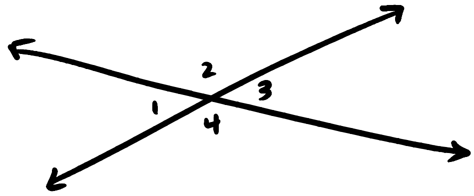
∡ EFD and ∡ CFA

#2 Given $\measuredangle 1 = 60°32'$

Find: a. $\measuredangle 2 = 119°28'$

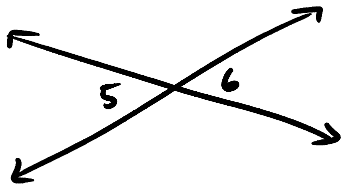
b. $\measuredangle 3 = 60°32'$

c. $\measuredangle 4 = 119°28'$



#3 Given. $\measuredangle 5 = (2x+7)°$

$\measuredangle 6 = (x+25)$



$2x+7 = x+25$

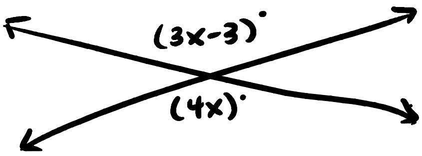
$x = 18$

$m\measuredangle 5 = 2(18)+7$

$= 36+7$

$= \boxed{43}$

#7 Is this possible?

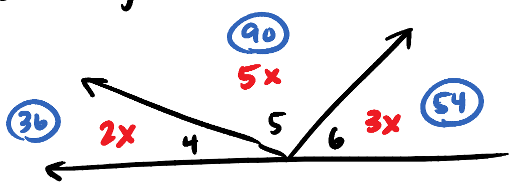


$4x = 3x-3$

$x = -3$

No - you cannot have a negative angle

#12 Angles 4, 5, 6 are in a ratio of 2:5:3



$2x+5x+3x = 180$

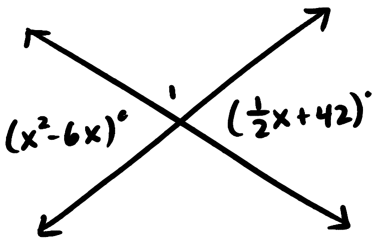
$10x = 180$

$x = 18$

#13 If a pair of vertical ∡'s are supp. what can we conclude about the angles

They are ≅ → They must be right ∡'s (90°)

#15 Find m∡1



$x^2-6x=\frac{1}{2}x+42$

$x^2-\frac{12}{2}x=\frac{1}{2}x+42$ ← common denominator

$2\left(x^2-\frac{13}{2}x-42=0\right)$

$2x^2-13x-84=0$ -168

$\underbrace{2x^2+8x}\underbrace{-21x-84}=0$ -21 8

$2x(x+4)-21(x+4)=0$

$(x+4)(2x-21)$

$x=-4$ or $x=\frac{21}{2}$

If $x=-4$

$(-4)^2-6(-4)$

$16+24$

40

$∡1=180-40$

$=\boxed{140}$

If $x=\frac{21}{2}$

$\left(\frac{21}{2}\right)^2-6\left(\frac{21}{2}\right)$

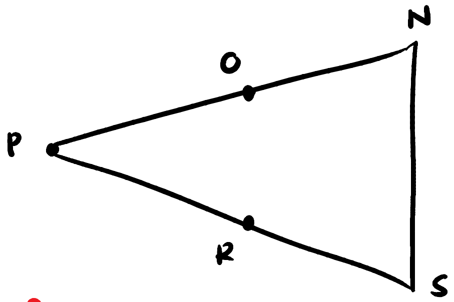
$=189/4$

$∡1=180-189/4$

$=\boxed{132.75}$

pg. 97

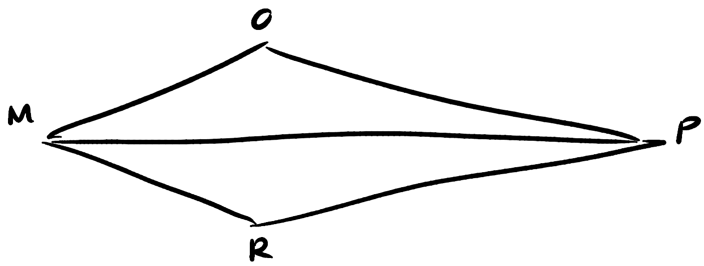
#5 O is the midpt of $\overline{NP}$
R is the midpt of $\overline{SP}$
$\overline{NP}\cong\overline{SP}$
Conclusion: $\overline{SR}\cong\overline{NO}$



Statements	Reasons
1. O is the midpt. of $\overline{NP}$	1. Given
2. R is the midpt. of $\overline{SP}$	2. Given
3. $\overline{NP}\cong\overline{SP}$	3. Given
4. $\overline{SR}\cong\overline{NO}$	4. If 2 segs are ≅ → their like divisions are ≅

#7 Given: ∡ OMP ≅ ∡ RPM
$\overrightarrow{MP}$ bisects ∡ OMR
$\overrightarrow{PM}$ bisects ∡ OPR

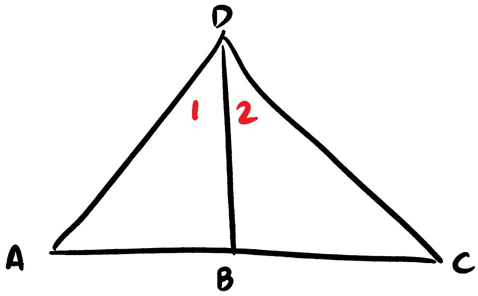
Prove: ∡ OMR ≅ ∡ OPR



Statements	Reasons
1. ∡ OMP ≅ ∡ RPM	1. Given
2. $\overrightarrow{MP}$ bisects ∡ OMR	2. Given
3. $\overrightarrow{PM}$ bisects ∡ OPR	3. Given
4. ∡ OMR ≅ ∡ OPR	4. If 2 ∡'s are ≅ → their like multiples are ≅

#12 Given: ∡ A is comp. to ∡ ADB
∡ C is comp. to ∡ CDB
$\overrightarrow{DB}$ bisects ∡ ADC

Conc: ∡ A ≅ ∡ C



Statements	Reasons
1. ∡ A comp to ∡ ADB	1 Given
2. ∡ C comp to ∡ CDB	2. Given
3 $\overrightarrow{DB}$ bisects ∡ ADC	3. Given
4. ∡ ADB ≅ ∡ CDB	4. If a ray bisects an ∡ → divides an ∡ into 2 ≅ ∡'s
5 ∡ A ≅ ∡ C	5. If 2 ∡'s are comp. to ≅ ∡'s → ∡'s ≅