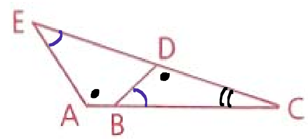
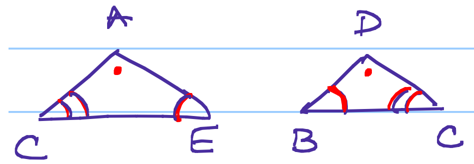
Chapter review begins on p 320:
1, 3, 5, 6, 7, 9, 10, 11, 14, 15, 20, 21, 28

Note Title 1/13/2016

Problem Set A

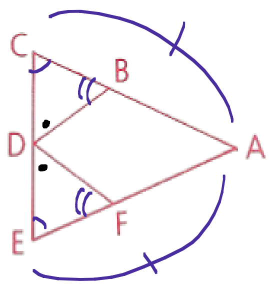
1 Given: ∠DBC ≅ ∠E
Conclusion: ∠A ≅ ∠BDC

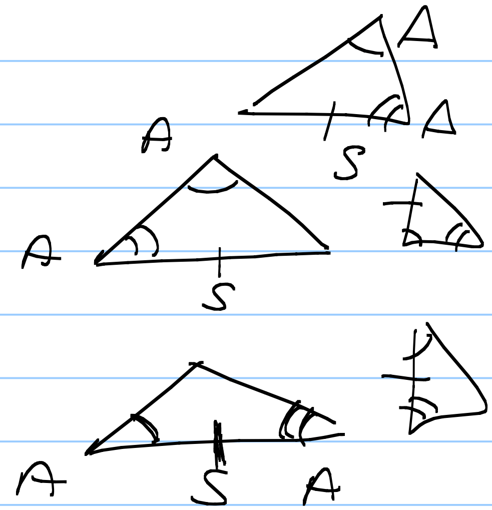




S	R
1. ∠DBC ≅ ∠E	1. Given
2. ∠C ≅ ∠C	2. Ref
3. ∠A ≅ ∠BDC	3. No Choice → If 2 ∠s in 1 △ are ≅ to 2 ∠s in another △ then the 3rd ∠s are ≅

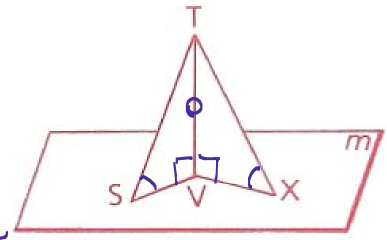
3 Given: $\overline{AC} \cong \overline{AE}$,
∠CBD ≅ ∠EFD
Prove: ∠BDC ≅ ∠FDE





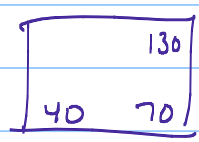
1. $\overline{AC} \cong \overline{AE}$	1. Given
2. ∠C ≅ ∠E	2. $\cong$ sides ⇒ ≅ ∠s
3. ∠CBD ≅ ∠EFD	3. Given
4. ∠BDC ≅ ∠FDE	4. No Choice

5 Given: $\overline{SV}$ lies in plane m.
$\overline{VX}$ lies in plane m.
$\angle S \cong \angle X$,
$\overleftrightarrow{TV} \perp$ plane m
Prove: $\overline{TS} \cong \overline{TX}$



1. $\overline{SV}$ & $\overline{VX}$ lie in m, $\overleftrightarrow{TV} \perp m$ — 1. given
2. $\overline{TV} \perp \overline{SV}$ & $\overline{VX}$ — 2. If a line ⊥ to a pln then it's ⊥ to all lines in that pln that pass through its foot.
3. ∠TVS & ∠TVX rt ∠s — 3. ⊥ ⇒ rt ∠
4. ∠TVS ≅ ∠TVX — 4. rt ∠s ≅ ∠s (A)
5. ∠S ≅ ∠X — 5. given (A)
6. $\overline{VT} \cong \overline{VT}$ — 6. Ref (S)
7. △TVS ≅ △TVX — 7. AAS (456)
8. $\overline{TS} \cong \overline{TX}$ — 8. CPCTC

6 The measures of three of the angles of a quadrilateral are 40, 70, and 130. What is the measure of the fourth angle?



$360 - 240 = 120^\circ$

7 The measures of the angles of a triangle are in the ratio 1:2:3. Find half the measure of the largest angle.

$1x + 2x + 3x = 180$

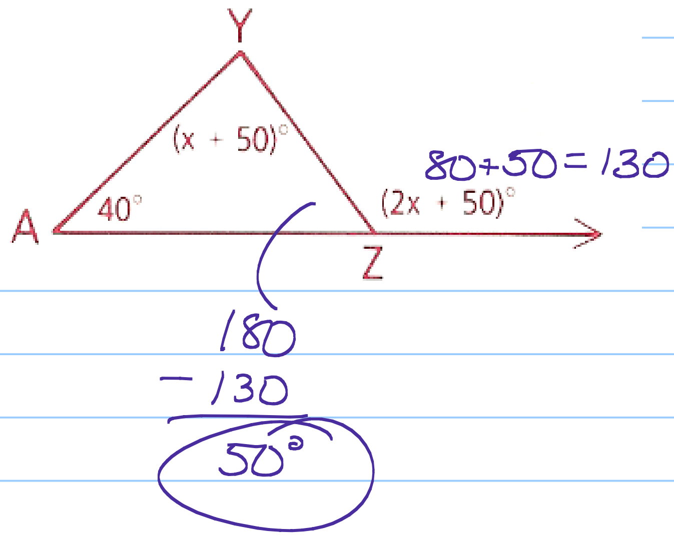
$6x = 180$

$x = 30$

$\frac{1}{2}$ lrg $\angle = \frac{90^\circ}{2} = 45^\circ$

9 Given: Diagram as marked

Find: m∠YZA



Ext∠ = sum remote int∠s

$2x+50 = x+90$

$x = 40°$

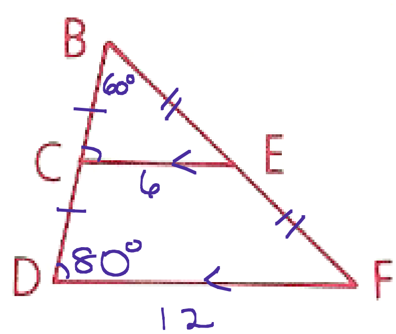
10 Given: C is the midpt. of $\overline{BD}$.

E is the midpt. of $\overline{BF}$.

DF = 12,

m∠D = 80, m∠B = 60

Find: CE, m∠BCE, and m∠BEC



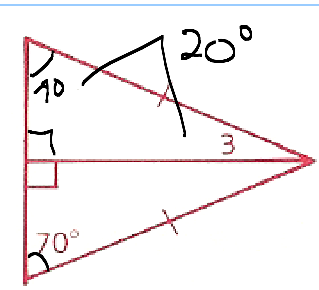
midline → 6

mdline ⇒ ∥, ∥ ⇒ corr∠s ≅ → 80°

180 − (80+60) = 40°

sum of ∠s in △ = 180

11 Find m∠3 in the diagram as marked.



14 The sum of the measures of the angles of a polygon is 1620. Find the number of sides of the polygon.

15 Find the number of diagonals that can be drawn in a pentadecagon. $n=15$

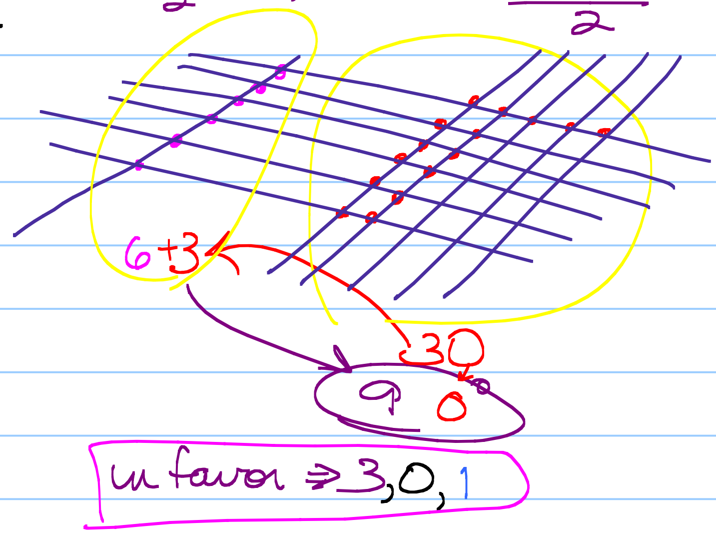
14: $\frac{(n-2)180}{180} = \frac{1620}{180}$

$n-2 = 9$

$n = 11$

15: $\frac{n(n-3)}{2}$, $n=15 \Rightarrow \frac{15 \cdot 12}{2} \Rightarrow 15 \cdot 6$

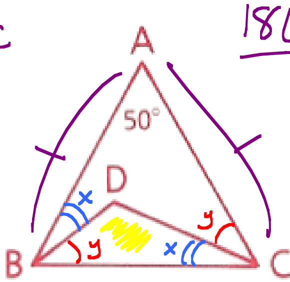
$15 \times 6 = 90$



50°

20 Given: $\overline{AB} \cong \overline{AC}$, → ∠B ≅ ∠C
∠DBC ≅ ∠DCA,
m∠A = 50

Find: m∠BDC



$\frac{180-50}{2} = \frac{130}{2} = 65 = m\angle B$

$x+y=65$

△DBC → ∠D + x + y = 180

∠D + 65 = 180

∠D = 115°

$2a+50=180$

$2a=130$

$a=65^\circ$

21 Tell whether each statement is true Always, Sometimes, or Never (A, S, or N).

a An equiangular triangle is isosceles. A

b The number of diagonals in a polygon is the same as the number of sides. S

T: n=5
F: any other

c An exterior angle of a triangle is larger in measure than any angle of a triangle. S

d One of the base angles of an isosceles triangle has a measure greater than that of one of the exterior angles of the triangle. N

28 In a drawer there is a regular triangle, a regular quadrilateral, a regular pentagon, and a regular hexagon. The drawer is opened, and an angle from one of the polygons is selected at random. What is the probability that the measure of the angle is an integral multiple of 30?

60°, 90°, 108°, 120°

3 60, 60, 60
4 90, 90, 90, 90
5 108, 108, 108, 108, 108 ← NOT mult 30
6 120, 120, 120, 120, 120, 120

$\frac{18-5}{18} = \boxed{13/18}$

$180 - E$

$180 - \frac{360}{n}$

$180 - \frac{360}{6} =$

$180 - 60 = 120°$