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Unit C Exam Review

1. Use the road mileage chart shown below for three cities in Iowa. If you drive from Cedar Rapids to Des Moines through Sioux City, how much farther is it than driving directly from Cedar Rapids to Des Moines?

1. 353 mi.

	Cedar Rapids	Des Moines	Sioux City
Cedar Rapids		122	275
Des Moines	122		200
Sioux City	275	200	

CR → Des 122 miles

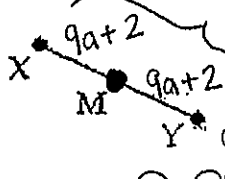
CR → Sioux 275 mi Sioux → Des 200

475 mi.

475 − 122

2. On the segment below, M is the midpoint of $\overline{XY}$, XM = 9a + 2, and XY = 24a - 20. Find *MY*.

2. 38



9a + 2 + 9a + 2 = 24a - 20

18a + 4 = 24a - 20

−18a −18a

4 = 6a − 2

+20 +20

24/6 = 6a/6

a = 4

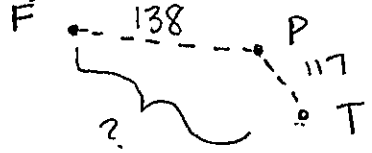
3. Can the numbers 12, 6.2, and 17.7 be the lengths of three sides of a triangle?

3. Yes, since 18.2 > 17.7

12 + 6.2 = 18.2

4. In Arizona the distance from Flagstaff to Phoenix is 138 miles and the distance from Phoenix to Tucson is 117 miles. From these facts alone, what conclusion can you draw about the distance from Flagstaff to Tucson?

4. 21 < x < 255



138 + 117 = 255

138 − 117 = 21

5. Two sides of a triangle have lengths 87 cm and 209 cm. How long can a third side be?

5. 122 < x < 296

209 + 87 = 296

209 − 87 = 122

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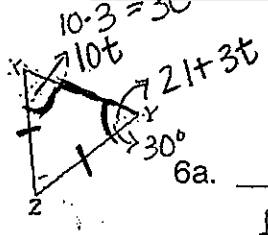
6. ΔXYZ below is isosceles with base $\overline{XY}$.



a. If $m\angle Z = 64$, find $m\angle X$.

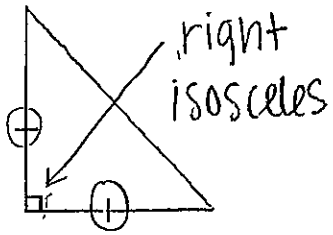
6a. 58°

b. If $m\angle X = 10t$ and $m\angle Y = (21 + 3t)$, find t and $m\angle Z$.

b. $t = 3$, $\angle Z = 120°$

$10t = 21 + 3t$
$-3t \quad -3t$
$7t = 21$
$\frac{7t}{7} = \frac{21}{7}$ → $t = 3$

7. From the information given in the drawing below, what type of triangle is pictured? Be as specific as possible.



7. isosceles right triangle

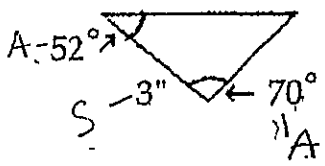
8-10

For ~~6-8~~, suppose a triangle is drawn with the measures indicated below.

a. Are all triangle with these measure congruent? Yes/No

b. Which triangle congruence theorem did you use? SSS, SAS, ASA, AAS

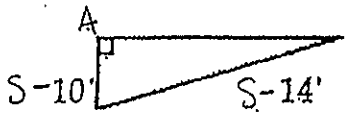
8.



8a. Yes

b. ASA

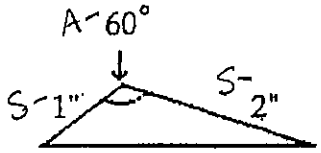
9.



9a. No

b. n.e.i

10.



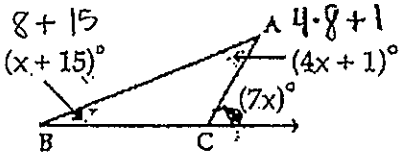
10a. Yes

b. SAS

11. Refer to ΔABC below.

a. Find $m\angle A$.

b. Find $m\angle B$.



11a. 33°

b. 23°

$x + 15 + 4x + 1 = 7x$
$5x + 16 = 7x$
$-5x \quad -5x$
$\frac{16}{2} = \frac{2x}{2}$
$8 = x$

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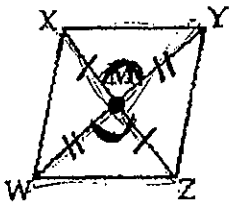
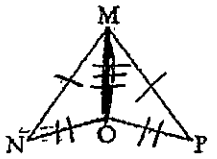
12. Justify each conclusion in this proof.
Given: XYZW is a parallelogram; M is the midpoint of diagonals XZ and YW.
To Prove: $\Delta XMY \cong \Delta ZMW$.



Conclusions	Justifications
0. XYZW is a parallelogram; M is the midpoint of djagonals XZ and YW.	Given
1. XM = MZ and WM = MY	Def. of midpoint
2. ∠XMY ≅ ∠ ZMW	Vertical Angles
3. $\Delta XMY \cong \Delta ZMW$	SAS

13. Write an argument for the following proof.
Given: $\overline{MN} \cong \overline{MP}$ and $\overline{NO} \cong \overline{PO}$.
To Prove: ∠NMO ≅ ∠ PMO.

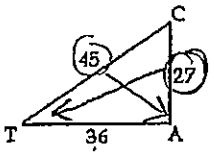


	Conclusions	Justifications
0.	$\overline{MN} \cong \overline{MP}$ & $\overline{NO} \cong \overline{PO}$	0. Given
1.	MO = MO	1. Reflexive Property
2.	$\Delta NMO \cong \Delta PMO$	2. SSS
3.	$\angle NMO \cong \angle PMO$	3. CPCF

14. Refer to ΔCAT.

a. Name the largest angle.

b. Name the smallest angle.

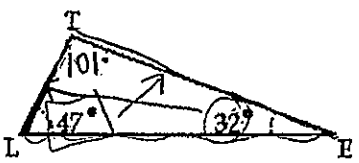


14a. ∠A

b. ∠T

15. Name the sides of ΔLET below in order from shortest to longest.

15. $\overline{LT}, \overline{TE}, \overline{LE}$



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16. **Multiple Choice.** If A, B, and D are coplanar, $BD = 45$, $AD = 11$, and $AB = 56$, you can conclude...

a. A, B, and D are vertices of a triangle.

b. D is between A and B. ✓

c. B is between A and D.

d. A is between B and D.