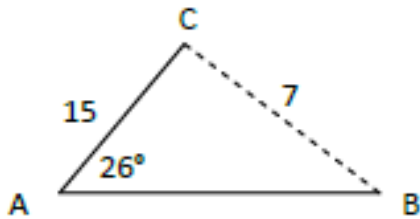
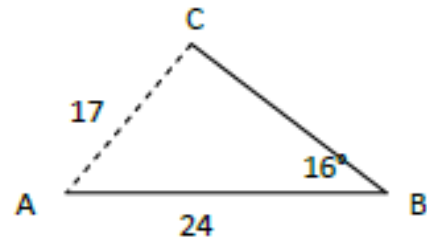


Unit 2 Day 4 HW(2)

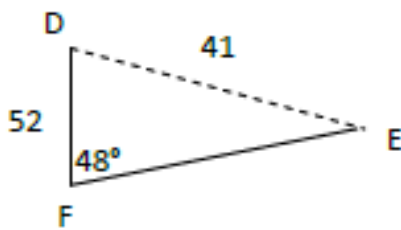
1. For $\triangle ABC$,
 $a = 7, b = 15$, and $m\angle A = 26^\circ$. Find all possible $m\angle B$ to the nearest degree.



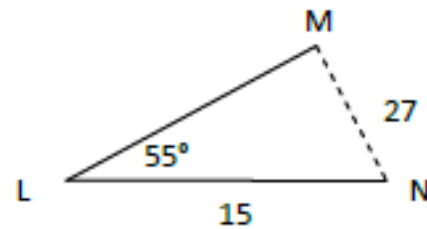
2. For $\triangle ABC$,
 $b = 17, c = 24$, and $m\angle B = 16^\circ$. Find all possible $m\angle C$ to the nearest degree.



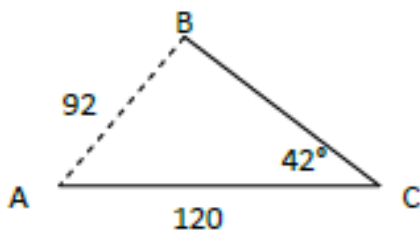
3. For $\triangle DEF$,
 $e = 52, f = 41$, and $m\angle F = 48^\circ$. Find all possible $m\angle E$ to the nearest degree.



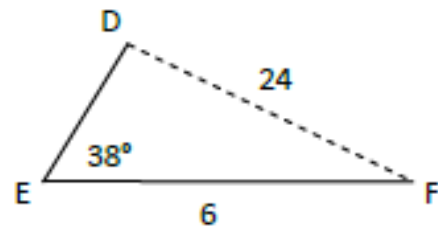
4. For $\triangle LMN$,
 $l = 27, m = 15$, and $m\angle L = 55^\circ$. Find all possible $m\angle M$ to the nearest degree.



5. For $\triangle ABC$,
 $b = 120, c = 92$, and $m\angle C = 42^\circ$. How many triangles can be formed?

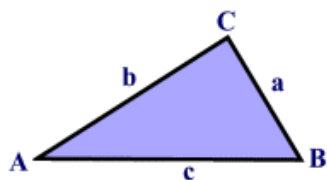


6. For $\triangle DEF$,
 $d = 6, e = 24$, and $m\angle E = 38^\circ$. How many Triangles can be formed?



Determine how many triangles can be constructed, then solve the triangle and find its area(s).

1.

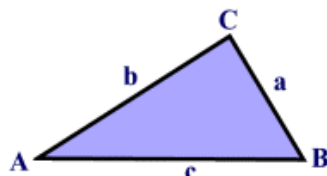


$$m\angle A = 20^\circ$$

$$a = 20$$

$$b = 32$$

2.

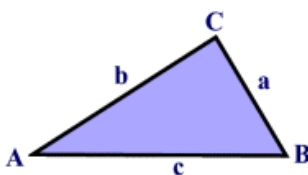


$$m\angle A = 65^\circ$$

$$a = 18$$

$$b = 22$$

3.

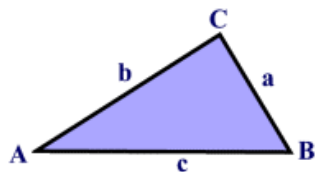


$$m\angle A = 20^\circ$$

$$a = 8$$

$$b = 14$$

4.



$$m\angle A = 155^\circ$$

$$a = 12.5$$

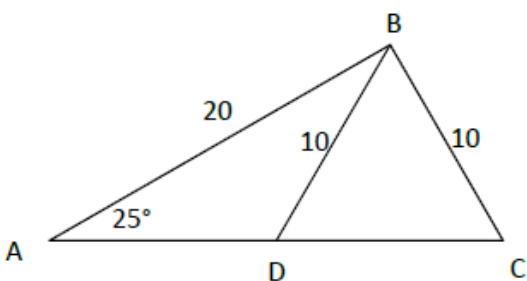
$$b = 8.4$$

III. Practice (harder) & word problems

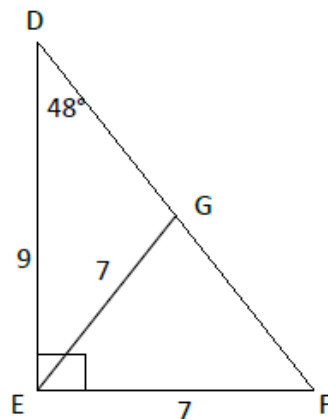
- For $\triangle ABC$,
 $a = 62$, $b = 53$, and $m\angle A = 54^\circ$. Find all possible $m\angle A$ to the nearest degree.
- For $\triangle XYZ$, $y = 7$, $z = 5$, and $m\angle Y = 19^\circ$. Find all possible $m\angle Z$ to the nearest degree.
- For $\triangle DEF$,
 $e = 12$, $f = 21$, and $m\angle E = 25^\circ$. Find all possible $m\angle F$ to the nearest degree.
- A triangle has two sides with lengths of 20 and 15. The measure of the angle opposite the side with a length of 15 is 35° . Find all the possible measures of the angle opposite the side with a length of 20 to the nearest degree.
- A triangle has two sides with lengths of 63 and 75. The measure of the angle opposite the side with a length of 75 is 22° . Find all the possible measures of the angle opposite the side with a length of 63 to the nearest degree.
- A triangle has two sides with lengths of 15 and 9. The measure of the angle opposite the latter is 34° . How many triangles can be formed?
- For $\triangle LMN$,
 $m = 8$, $n = 11$, and $m\angle M = 6^\circ$. Find all possible $m\angle N$ to the nearest degree.
- For $\triangle ABC$,
 $a = 40$, $c = 49$, and $m\angle C = 32^\circ$. Find all possible $m\angle A$ to the nearest degree.
- For $\triangle LMN$,
 $l = 30$, $m = 24$, and $m\angle M = 40^\circ$. Find all possible $m\angle L$ to the nearest degree.
- A triangle has two sides with lengths of 45 and 44. The measure of the angle opposite the side with a length of 44 is 62° . Find all the possible measures of the angle opposite the side with a length of 45 to the nearest degree.
- A triangle has two sides with lengths of 42 and 37. The measure of the angle opposite the latter is 20° . Find all the possible measures of the angle opposite the side with a length of 42 to the nearest degree.
- A triangle has two sides with lengths of 17 and 19. The measure of the angle opposite the latter is 5° . How many triangles can be formed?.

IV. Challenge Problems

19. For the figure below find $m\angle ADB$ and $m\angle C$ to the nearest whole degree, given $m\angle ADB > m\angle C$.



20. For the figure below find $m\angle DGE$ and $m\angle F$ to the nearest whole degree, given $m\angle DGE > m\angle F$.



21. Line segment AB has a length of 15 and $m\angle A = 35^\circ$. A segment with a length of 12 will form the third side of the triangle. What are the possible measures of the angle opposite side AB?
22. For $\triangle ABC$, $a = 6$, $b = 10$, and $m\angle A = 42^\circ$, how many triangles can be formed?
23. For $\triangle DEF$, $e = 27$, $f = 12$, and $m\angle F = 37^\circ$. Find all possible $m\angle E$ to the nearest degree.
24. For $\triangle ABC$, $a = 15$, $b = 11$, and $m\angle B = 36^\circ$. Find all possible $m\angle C$ to the nearest degree.
25. For $\triangle DEF$, $d = 25$, $e = 30$, and $m\angle D = 40^\circ$. Find all possible measurements of f to the nearest whole number.