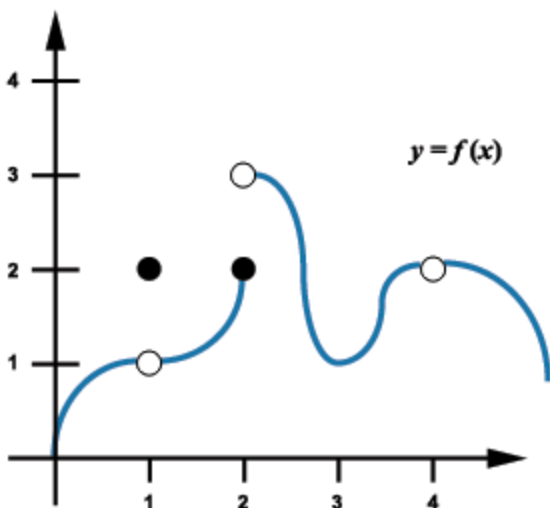


A.P. PHYSICS summer assignment

NAME: _____



Using the graph of f as shown on the left, estimate:

1. The value

of $\lim_{x \rightarrow 1} f(x) =$

2. The value

of $\lim_{x \rightarrow 2} f(x) =$

3. The value

of $\lim_{x \rightarrow 2^+} f(x) =$

4. The value

of $\lim_{x \rightarrow 3} f(x) =$

5. The value of $\lim_{x \rightarrow 4} f(x) =$

- Compute

- *PROBLEM 6* : Compute $\lim_{x \rightarrow 2} \frac{3x^2 - x - 10}{x^2 - 4}$.

- *PROBLEM 7* : Compute $\lim_{x \rightarrow 3} \frac{x^4 - 81}{2x^2 - 5x - 3}$.

- *PROBLEM 8* : Compute $\lim_{x \rightarrow -2} \frac{\frac{1}{x} + \frac{1}{2}}{x^3 + 8}$.

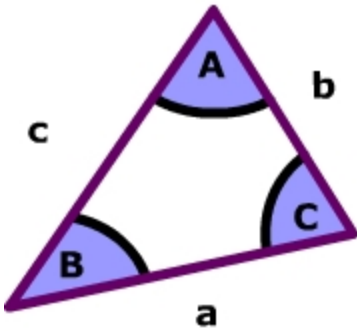
- *PROBLEM 9* : Compute $\lim_{x \rightarrow 4} \frac{3 - \sqrt{x + 5}}{x - 4}$.

- *PROBLEM 10* : Compute $\lim_{x \rightarrow 0} \frac{x^3 - 7x}{x^3}$.

-
-
-
-
-

- *PROBLEM 11* : Compute $\lim_{x \rightarrow 1} \frac{x^3 - 1}{(x - 1)^2}$.

Law of Cosines



$$a^2 = b^2 + c^2 - 2bc \cdot \cos(A)$$

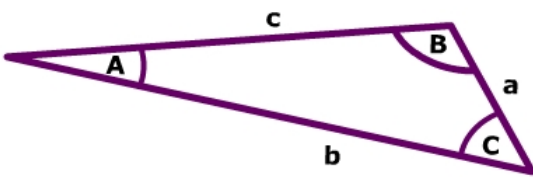
$$b^2 = a^2 + c^2 - 2ac \cdot \cos(B)$$

$$c^2 = a^2 + b^2 - 2ab \cdot \cos(C)$$

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LAW OF SINES

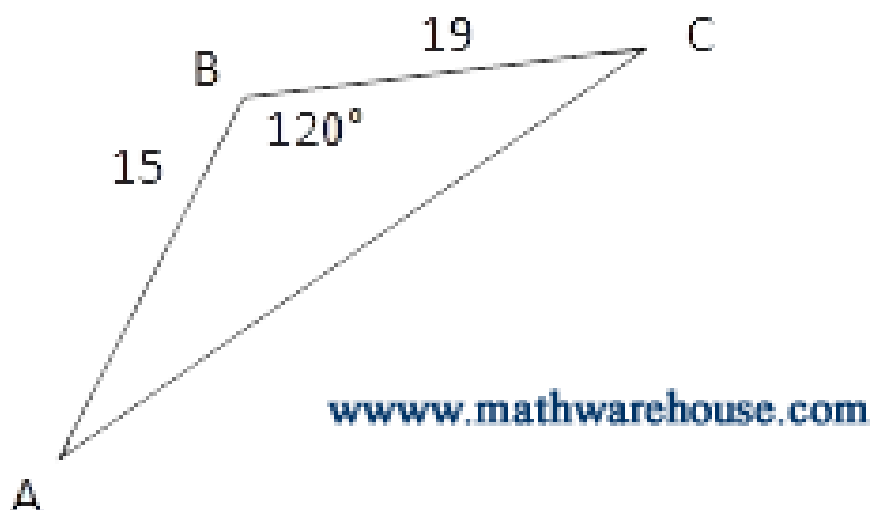
$$\frac{\sin(A)}{a} = \frac{\sin(B)}{b} = \frac{\sin(C)}{c}$$



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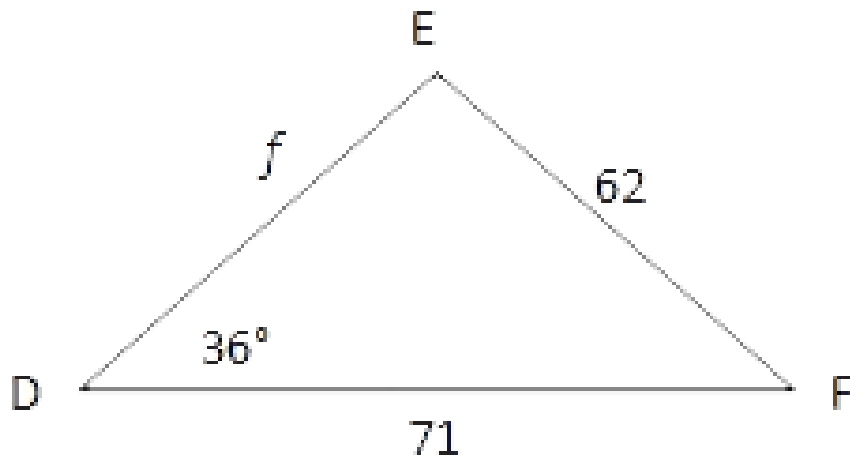
$$\frac{a}{\sin(A)} = \frac{b}{\sin(B)} = \frac{c}{\sin(C)}$$

12. Find the $m\angle C$ to the nearest whole degree.



13. A 25° , 45° , 110° triangle has the leg between the 25° angle and the 45° angle a length of 56 cm. Find the length of the other two sides. Draw a to-scale sketch of your triangle.

14. Find the f to the nearest whole number.



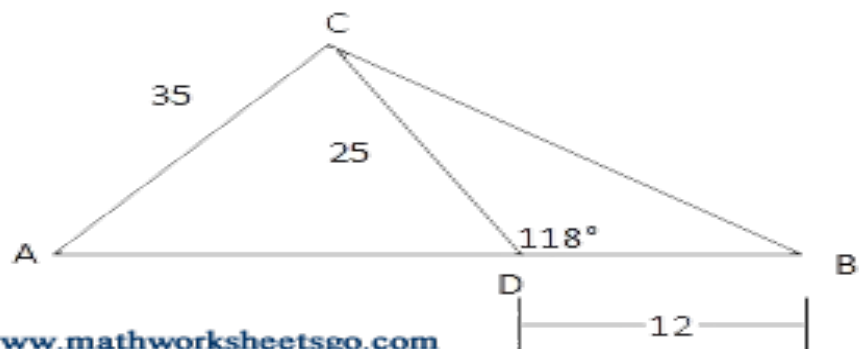
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15. An airplane going 250 mph is heading due north when it encounters a wind of 60 mph 30 degrees east of north. Sketch the situation – label the pieces – determine the resultant angle and speed of the plane.

16. Using the concept from problem 15, what direction would the wind need to be blowing for the final speed of the plane to be 310 mph? _____ and what direction would the wind need to be blowing for the speed of the plane to be 190 mph? _____ and what direction would the wind need to be blowing for the plane to be going 275 mph? _____ and why can the plane not ever be going 400 mph under the conditions given?

III. Challenge Problems

17. Find the $m\angle A$ to the nearest whole degree.



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18. Find the $m\angle DGF$ to the nearest whole degree.

