

# Assignment #6-5

# Secondary 3 Honors

Carnegie Book: Pg. 420 #8 (b, c)

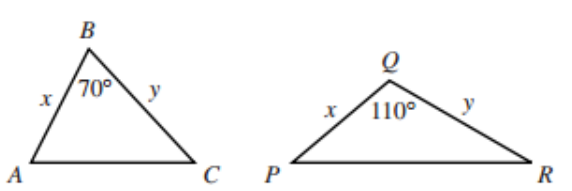
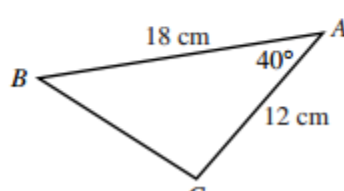
Pg. 429-430 #8(a-d)

Precalculus Book: Pg. 232 – 236 7, 10, 13, 19, 22, 30, 39, 42, 44, 48, 54, 63, 67

## Additional Problems:

- Evaluate the logarithms without using a calculator. (Hint: switch them to exponential form)
  - $\log_2 16$
  - $\log_3 \frac{1}{27}$
  - $\ln e^{5x}$
  - $\log_{16} 2$
- Evaluate the logarithms using a calculator.
  - $3 \ln 6$
  - $\log(-10)$
  - $\log_5 16$
  - $\log_{1/2} 7$

## ACT Review:

<p>1. Triangles <math>\triangle ABC</math> and <math>\triangle PQR</math> are shown below. The given side lengths are in centimeters. The area of <math>\triangle ABC</math> is 30 square centimeters. What is the area of <math>\triangle PQR</math>, in square centimeters?</p>  <p>F. 15 G. 19 H. 25 J. 30 K. 33</p>	<p>2. What is the sum of the first 4 terms of the arithmetic sequence in which the 6th term is 8 and the 10th term is 13?</p> <p>F. 10.5 G. 14.5 H. 18 J. 21.25 K. 39.5</p>
<p>3. The solution set of which of the following equations is the set of real numbers that are 5 units from <math>-3</math>?</p> <p>F. <math> x + 3  = 5</math> G. <math> x - 3  = 5</math> H. <math> x + 5  = 3</math> J. <math> x - 5  = 3</math> K. <math> x + 5  = 3</math></p>	<p>4. In the equation <math>x^2 + mx + n = 0</math>, <math>m</math> and <math>n</math> are integers. The <i>only</i> possible value for <math>x</math> is <math>-3</math>. What is the value of <math>m</math>?</p> <p>A. 3 B. <math>-3</math> C. 6 D. <math>-6</math> E. 9</p>
<p>5. Triangle <math>\triangle ABC</math> is shown in the figure below. The measure of <math>\angle A</math> is <math>40^\circ</math>, <math>AB = 18</math> cm, and <math>AC = 12</math> cm. Which of the following is the length, in centimeters, of <math>BC</math>?</p> <p>(Note: For a triangle with sides of length <math>a</math>, <math>b</math>, and <math>c</math> opposite angles <math>\angle A</math>, <math>\angle B</math>, and <math>\angle C</math>, respectively, the law of sines states <math>\frac{\sin \angle A}{a} = \frac{\sin \angle B}{b} = \frac{\sin \angle C}{c}</math> and the law of cosines states <math>c^2 = a^2 + b^2 - 2ab \cos \angle C</math>.)</p> 	<p>A. <math>12 \sin 40^\circ</math> B. <math>18 \sin 40^\circ</math> C. <math>\sqrt{18^2 - 12^2}</math> D. <math>\sqrt{12^2 + 18^2}</math> E. <math>\sqrt{12^2 + 18^2 - 2(12)(18) \cos 40^\circ}</math></p>