Test #3: Chapter 7
Mth 164-280

Name: _____

Important Dates/Times: Turn This Test in By-

> Friday, 8:00AM, 04/09/10 = 10 point bonus
> Tuesday, 7:00PM, 04/13/10 = as graded
> Wednesday, 8:00AM, 04/14/10 = max(25 point penalty, 0 grade)
> Thursday, 8:00AM, 04/15/10 = max(50 point penalty, 0 grade)
> Friday, 8:00AM, 04/16/10 = max(75 point penalty, 0 grade)
> Any Date Later = 0 grade

Instructions: Print this test from the PDF file on Blackboard. Show all work on these pages. You may use the back of the pages, if necessary. Put <u>only</u> the answers in the answer block(s) if provided.

- If instructed to provide the numerical (*decimal*) answer, round it to the specified precision.
- If instructed to provide the *exact* answer, use π, a radical expression ($\sqrt{}$), or a fraction, as applicable.

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1. Given triangle ABC, with angle A = 62°, angle B = 51°, and side c = 19 units, find side a. (Round your answer to the nearest unit.)

   Answer:

2. Given triangle ABC, with angle A = 34°, side b = 7 units, and side a = 11 units, find angle B. (Round your answer to the nearest degree.)

Answer:

3. Given triangle ABC, with angle B = 71°, side a = 4 units, and side c = 7 units, find side b. (Round your answer to the nearest tenth of a unit.)

Answer:

4. Given triangle ABC, with side a = 26 units, side b = 15 units, and side c = 20 units, find angle A. (Round your answer to the nearest degree.)

> Answer:

5. Given triangle ABC, with angle C = 61°, side a = 55 units, and side b = 29 units, find the area of the triangle. (Round your answer to the nearest square unit.)

> Answer:

6. Given triangle ABC, with angle B = 52°, angle C = 68°, and side b = 15 units, find the area of the triangle. (Round your answer to the nearest square unit.)

Answer:

7. Use Heron's Formula to find the area of a triangle with sides of length 12 inches, 22 inches, and 18 inches. (Round your answer to the nearest square inch.)

Answer:

8. A vector has a magnitude of 16 and a direction of 240°. Write the vector in the form
    $\mathbf{v} = a_1\mathbf{i} + a_2\mathbf{j}$. Round a_1 and a_2 to the nearest hundredth.

Answer:

9. Given $\mathbf{u} = 3\mathbf{i} - 5\mathbf{j}$ and $\mathbf{v} = \mathbf{i} - 2\mathbf{j}$. Find $2\mathbf{u} - 3\mathbf{v}$.

Answer:

10. Find the dot product of $\mathbf{u} = -4\mathbf{i} + \mathbf{j}$ and $\mathbf{v} = 3\mathbf{i} + 7\mathbf{j}$.

Answer:

11. Find the smallest positive angle between the vectors $\mathbf{u} = <2,3>$ and $\mathbf{v} = <6,4>$.
(Round your answer to the nearest degree.)

Answer:

12. A motorist drove 86 miles at a heading of 146°. The motorist then drove 74 miles at a heading of 236°. Find the distance of the motorist from the starting point. (Round your answer to the nearest mile.)

Answer:

13. A triangular piece of commercial real estate is priced at $10.25 per square foot. What is the cost of a lot which measures 120 feet by 100 feet by 80 feet? (Round your answer to the nearest $100.)

Answer: