Score: 1 of 1 pt

1 of 34

7.1.17

Given $B = 30°$, $C = 105°$, and $a = 12$, find the exact value of b in triangle ABC.

$b = 6\sqrt{2}$ (Type an exact answer, using radicals as needed.)

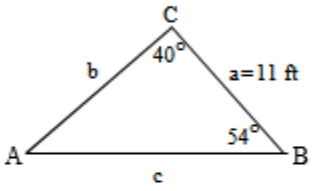
Score: 1 of 1 pt

2 of 34

Te

7.1.21

Solve the triangle shown to the right.



A = 86 ° (Type an integer or a decimal.)

$b \approx$ 8.92 ft
(Do not round until the final answer. Then round to the nearest hundredth as needed.)

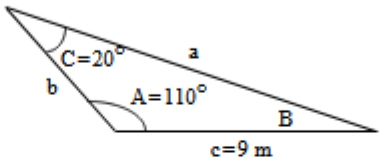
$c \approx$ 7.09 ft
(Do not round until the final answer. Then round to the nearest hundredth as needed.)

Score: 1 of 1 pt

3 of 34

7.1.23

Solve the triangle shown to the right.



B = 50 ° (Type an integer or a decimal.)

a ≈ 24.73 m
(Do not round until the final answer. Then round to the nearest hundredth as needed.)

b ≈ 20.16 m
(Do not round until the final answer. Then round to the nearest hundredth as needed.)

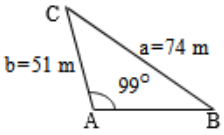
Score: 1 of 1 pt

4 of 34

Test Score: 87

7.1.27

Solve the triangle. Round each answer to the nearest tenth.



Select the correct choice below and, if necessary, fill in the answer boxes to complete your choice.

A. There is only one possible solution for the triangle.
The measurements for the remaining angles B and C and side c are as follows.
B = 42.9 ° C = 38.1 ° c = 46.2
(Round to the nearest tenth as needed.)

B. There are 2 possible solutions for the triangle.
The measurements for the solution with the longer side c are as follows.
B1 = ° C1 = ° c1 =
The measurements for the solution with the shorter side c are as follows.
B2 = ° C2 = ° c2 =
(Round to the nearest tenth as needed.)

C. There are no possible solutions for this triangle.

Score: 0 of 1 pt | 5 of 34 | **Test Score:** 8

7.1.43

With the given SSA measurements, indicate whether the given measurements result in no triangle, one triangle, or two t
resulting triangle.

$A = 30°$, $a = 9$, $b = 18$

Select the correct choice below and, if necessary, fill in the answer boxes to complete your choice.
(Round to one decimal place as needed.)

A. There is only one possible solution for the triangle.
The measurements for the remaining angles B and C, as well as side length c are as follows.
B = 90.0 ° C = 60.0 ° c = 15.6

B. There are two possible solutions for the triangle.
The measurements for the solution with the smaller side length c are as follows.
B = ° C = ° c =
The measurements for the solution with the larger side length c are as follows.
B = ° C = ° c =

C. There are no possible solutions for this triangle.

I said there was no solution. I don't know what I did but I was probably calculating something incorrect somewhere.

7.1.45

Solve the following SSA triangle. Indicate whether the given measurements result in no triangle, one triangle, or two triangles. Solve each resulting triangle. Round each answer to the nearest tenth.

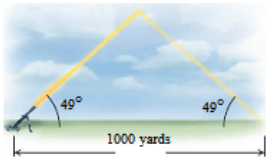
$A = 39°$, $a = 12$, $b = 30$

Select the correct choice below and, if necessary, fill in the answer boxes to complete your choice.

- A. There is only one possible solution for the triangle. The measurements for remaining angles B, C and side c are as follows.
  $B =$ ____°, $C =$ ____°, $c =$ ____.
  (Type an integer or a decimal rounded to the nearest tenth as needed.)
- B. There are two possible solutions for the triangle. The measurements for the solution with the smaller side length c are as follows.
  $B_1 =$ ____°, $C_1 =$ ____°, $c_1 =$ ____
  The measurements for the solution with the larger side length c are as follows.
  $B_2 =$ ____°, $C_2 =$ ____°, $c_2 =$ ____
  (Type an integer or a decimal rounded to the nearest tenth as needed.)
- C. There are no possible solutions for the triangle.

7.1.63

A laser beam with an angle of elevation of $49°$ is reflected by a target and is received 1000 yards from the point of origin. Assume that the trajectory of the beam forms (approximately) an isosceles triangle.
a. Find the total distance the beam travels.
b. What is the height of the target?



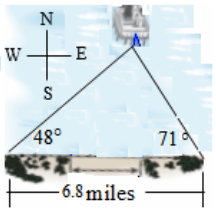
a. The total distance is 1524 yards.
(Do not round until the final answer. Then round to the nearest yard as needed.)

b. The height of the target is 575 yards.
(Do not round until the final answer. Then round to the nearest yard as needed.)

Score: 1 of 1 pt | 7 of 34 | **Test Score:** 87.25%, 29.67 of 34 pts

7.1.61

During a war, Country A led a massive assault on the beach of Country B. The beach is 6.8 miles long. At 5 AM, a ship was first spotted from either end of the beach. The angle made with the ship from one end of the beach was 48°. The angle made with the ship from the other end of the beach was 71°. Determine the distance from the ship to the west end of the beach at the moment the ship was first spotted.



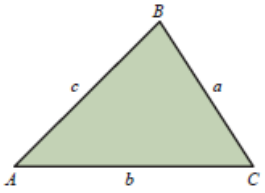
The ship was about 7.4 miles from the west end when it was first spotted.
(Round to one decimal place as needed.)

Score: 1 of 1 pt | 9 of 34 | **Test Score:** 87.25%, 29

7.2.1

Complete the following statement.

One form of law of cosines is $c^2 = a^2 + b^2 - 2ab \cos(\_\_)$



One form of law of cosines is $c^2 = a^2 + b^2 - 2ab \cos(C)$.

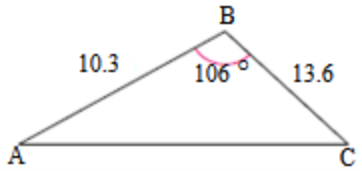
Score: 1 of 1 pt

10 of 34

T

7.2.15

Solve the triangle ABC.



Find the unknown side b, the side opposite angle B.

b = 19.2 (Round to the nearest tenth as needed.)

Find the unknown angle C.

C = 31.1 (Round to the nearest tenth as needed.)

Find the unknown angle A.

A = 42.9 (Round to the nearest tenth as needed.)

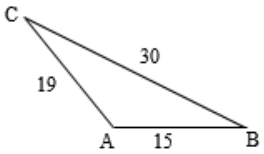
Score: 1 of 1 pt

11 of 34

Test Score: 87.25%

7.2.17

Solve the triangle given to the right.



A = 123.4 °, B = 31.9 °, C = 24.7 °

(Round the final answers to one decimal place as needed. Round all intermediate values to four decimal places as needed.)

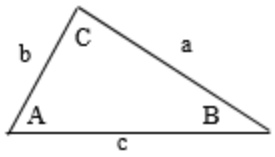
Score: 1 of 1 pt

12 of 34

7.2.21

Solve the triangle.

$a = 7,\ b = 4,\ C = 70°$



$c \approx$ 6.77
(Round to two decimal places as needed.)

$A \approx$ 76.3 °
(Type your answer in degrees. Round to one decimal place as needed.)

$B \approx$ 33.7 °
(Type your answer in degrees. Round to one decimal place as needed.)

Score: 1 of 1 pt

13 of 34

7.2.27

Solve the triangle ABC.

$a = 2.5 \quad b = 3.5 \quad c = 5.6$

Find the unknown angle C, the angle opposite side c.

C = 137.3 (Round to the nearest tenth as needed.)

Find the unknown angle B, the angle opposite side b.

B = 25.1 (Round to the nearest tenth as needed.)

Find the unknown angle A, the angle opposite side a.

A = 17.6 (Round to the nearest tenth as needed.)

Score: 1 of 1 pt | 14 of 34 | T

7.3.19

Find the area of the triangle ABC.

$A = 48.9^\circ$ $B = 32.2^\circ$ $c = 20.6$ m

What is the area of the triangle?

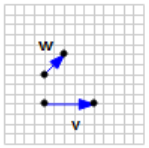
86.2 m^2 (Round to the nearest tenth as needed.)

Score: 1 of 1 pt | 15 of 34 | **Test Score:** 87.25%, 29.67 of

7.4.7

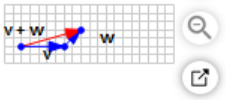
Use the vectors in the figure at the right to graph the following vector.

$\mathbf{v} + \mathbf{w}$

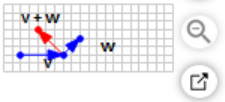


Choose the correct graph below.

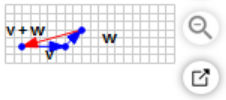
A.



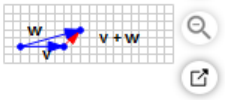
B.



C.



D.

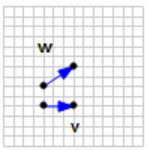


Score: 1 of 1 pt | 16 of 34 | **Test Score:** 87.25%, 29.67 of 3

7.4.9

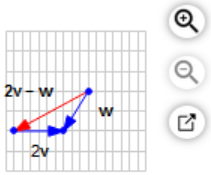
Use the vectors in the figure at the right to graph the following vector.

$2\mathbf{v} - \mathbf{w}$

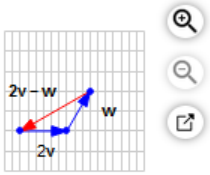


Choose the correct graph below.

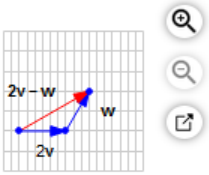
A.



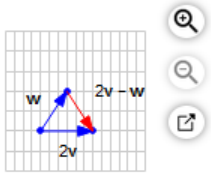
B.



C.



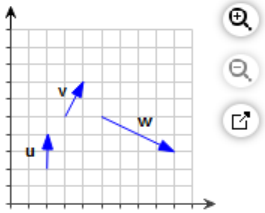
D.



Score: 1 of 1 pt | 17 of 34 | **Test Score:** 87.25%, 29.67 of 3

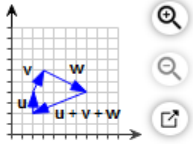
7.4.11

Use the vectors $\mathbf{u}$, $\mathbf{v}$, and $\mathbf{w}$ in the accompanying figure to graph the vector $\mathbf{u} + \mathbf{v} + \mathbf{w}$.

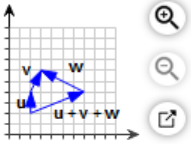


Choose the correct graph below.

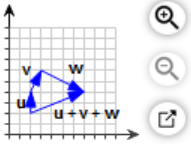
A.



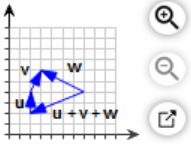
B.



C.



D.



Score: 1 of 1 pt | 18 of 34

7.4.15

The vector **v** has initial point P and terminal point Q. Write **v** as a position vector.

P(4,8), Q(2,9)

$\mathbf{v} = \langle -2, 1 \rangle$

(Simplify your answer. Use integers or fractions for any numbers in the expression.)

Score: 1 of 1 pt | 19 of 34

7.4.17

The vector **v** has initial point P and terminal point Q. Write **v** as a position vector.

P(−7, −3), Q(−1, −6)

$\mathbf{v} = \langle 6, -3 \rangle$

(Simplify your answer. Use integers or fractions for any numbers in the expression.)

Score: 1 of 1 pt | 20 of 34 | **Test Score:** 87.25%, 29.67 of 34

7.4.23

For the points A(−3,4), B(−1,9), C(−5,3), and D(−3,8), determine whether the vectors $\overrightarrow{AB}$ and $\overrightarrow{CD}$ are equivalent. [Hint: Write $\overrightarrow{AB}$ and $\overrightarrow{CD}$ as position vectors.]

Choose the correct answer below.

- A. The vectors are equivalent because the position vector of $\overrightarrow{AB}$ is a scalar multiple of the position vector of $\overrightarrow{CD}$.
- B. The vectors are not equivalent because position vector of $\overrightarrow{AB}$ and the position vector of $\overrightarrow{CD}$ are located in different positions.
- C. The vectors are not equivalent because the position vector of $\overrightarrow{AB}$ is not equal to the position vector of $\overrightarrow{CD}$.
- D. The vectors are equivalent because the position vector of $\overrightarrow{AB}$ is equal to the position vector of $\overrightarrow{CD}$.

Score: 1 of 1 pt

21 of 34

7.4.41

Let $\mathbf{u} = 3\mathbf{i} - 6\mathbf{j}$ and $\mathbf{v} = -4\mathbf{i} + 9\mathbf{j}$. Find the vector $\mathbf{u} + \mathbf{v}$.

$\mathbf{u} + \mathbf{v} =$ $-1\mathbf{i} + 3\mathbf{j}$ (Simplify your answer. Type your answer in terms of i and j.)

Score: 0 of 1 pt

22 of 34

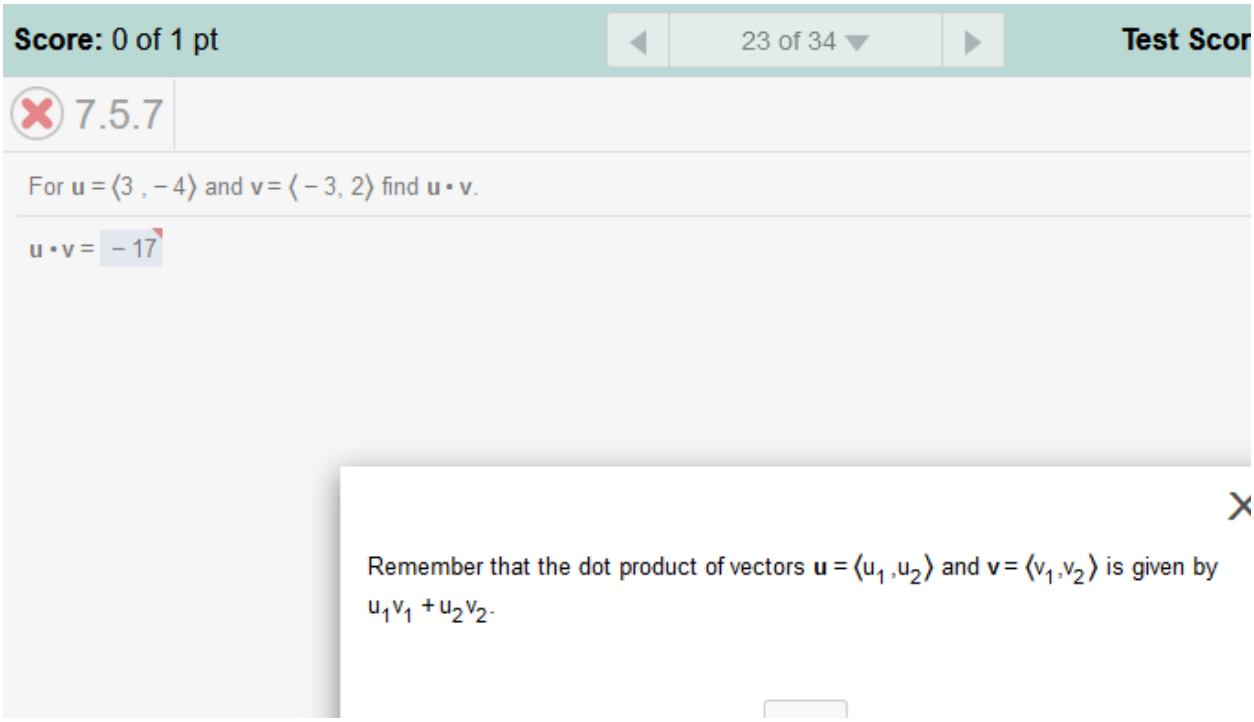
7.4.42

Let $\mathbf{u} = 9\mathbf{i} - 6\mathbf{j}$, and $\mathbf{v} = -7\mathbf{i} + 9\mathbf{j}$. Find $\mathbf{u} - \mathbf{v}$.

$\mathbf{u} - \mathbf{v} =$ $16\mathbf{i} - 15\mathbf{j}$ (Simplify your answer. Type your answer in terms of i and j.)

If $\mathbf{u} = u_1\mathbf{i} + u_2\mathbf{j}$ and $\mathbf{v} = v_1\mathbf{i} + v_2\mathbf{j}$, then $\mathbf{u} - \mathbf{v} = (u_1 - v_1)\mathbf{i} + (u_2 - v_2)\mathbf{j}$.

THESE ARE NOT CALCULATED THE SAME AS TERMINAL POINTS. SEE THE EQUATION SHOWN ABOVE



SAME ISSUE AS THE ABOVE PROBLEM. DID NOT CALCULATE CORRECTLY.

Score: 1 of 1 pt

24 of 34

7.5.9

For the following vectors, find $\mathbf{u} \cdot \mathbf{v}$.

$\mathbf{u} = \langle 5, -20 \rangle$ and $\mathbf{v} = \langle 4, 1 \rangle$

$\mathbf{u} \cdot \mathbf{v} =$ 0

Score: 1 of 1 pt

25 of 34

7.5.11

Find the dot product of $\mathbf{u}$ and $\mathbf{v}$.

$\mathbf{u} = 4\mathbf{i} - 3\mathbf{j}$ and $\mathbf{v} = -\mathbf{i} + 4\mathbf{j}$

$\mathbf{u} \cdot \mathbf{v} =$ -16 (Simplify your answer.)

Score: 1 of 1 pt

26 of 34

7.5.13

Find the dot product $\mathbf{u} \cdot \mathbf{v}$.

$\mathbf{u} = 5\mathbf{i} - 4\mathbf{j}$ $\mathbf{v} = 2\mathbf{j}$

$\mathbf{u} \cdot \mathbf{v} =$ -8 (Simplify your answer.)

Score: 1 of 1 pt

27 of 34

7.5.19

Find $\mathbf{u} \cdot \mathbf{v}$, where θ is the angle between the vectors $\mathbf{u}$ and $\mathbf{v}$.

$\|\mathbf{u}\| = 6,\ \|\mathbf{v}\| = 7,\ \theta = 60^\circ$

$\mathbf{u} \cdot \mathbf{v} \approx$ 21 (Round to the nearest tenth as needed.)

Score: 1 of 1 pt

28 of 34

Test Score: 87.25%, 29.6

7.6.27

The polar coordinates of a point are given. Find the rectangular coordinates of this point.

$\left(2, \frac{3\pi}{2}\right)$

What are the rectangular coordinates of this point?

$(0, -2)$

(Type an ordered pair. Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression.)

Score: 1 of 1 pt

29 of 34

Test Score: 87.25%, 29.67 of 34

7.6.31

The rectangular coordinates of a point are given. Find polar coordinates of the point such that $r > 0$ and $0 \le \theta < 2\pi$.

$(10, -10)$

The polar coordinates are $\left(10\sqrt{2}, \frac{7\pi}{4}\right)$

(Simplify your answer, including any radicals. Type an ordered pair. Type an exact answer, using π as needed. Use integers or fractions for any numbers in the expression.)

Score: 1 of 1 pt

30 of 34

7.6.39

Convert to a polar equation.

$x^2 + y^2 = 64$

Which of the following is the correct polar equation?

- A. $8 \cos \theta - 8 \sin \theta = 0$
- B. $r = 8$
- C. $64 \cos \theta - 64 \sin \theta = 0$
- D. $r = 64$

Score: 1 of 1 pt

31 of 34

Test Sc

7.7.11

Plot the complex number and find its absolute value.

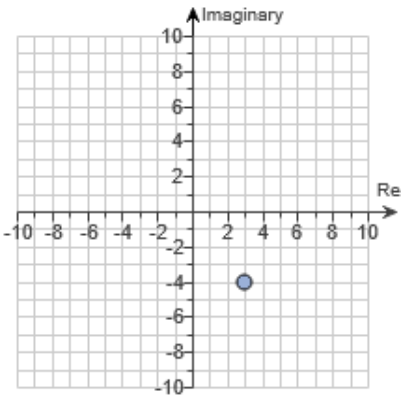
$3 - 4i$

Plot the complex number on the complex plane to the right.

What is the absolute value of this complex number?

$|3 - 4i| = 5$

(Simplify your answer. Type an exact answer, using radicals as needed.)



Score: 1 of 1 pt | 32 of 34 | Te

7.7.17

Write the following complex number in polar form. Express the argument θ in degrees, with $0° \le \theta < 360°$.

$2 - 2i$

$z = 2\sqrt{2}\left(\cos 315° + i \sin 315°\right)$

(Type an exact answer, using radicals as needed. Type any angle measures in degrees.)

Score: 0.67 of 1 pt | 33 of 34 | **Test Score:** 87.25%, 29.6

7.7.45

Find $z_1 z_2$ and $\frac{z_1}{z_2}$ for $z_1 = 1 + i$, $z_2 = 1 - i$. Write each answer in polar form.

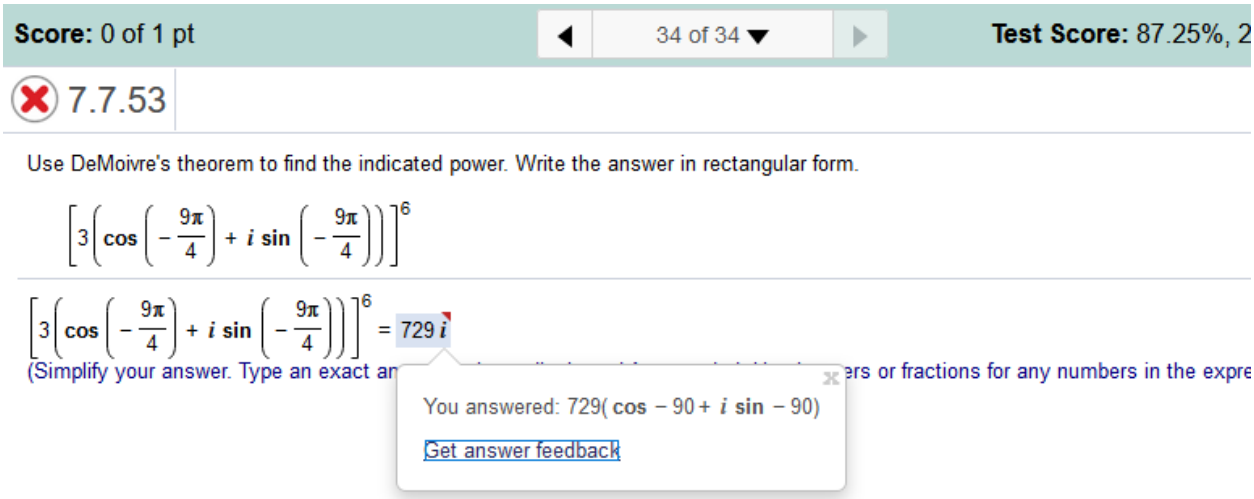
$z_1 z_2 = 2\left[\cos 0° + i \sin 0°\right]$

(Simplify your answers. Type any angle measures in degrees. Use angle measures greater than or equal to 0 and less than 360.)

$\frac{z_1}{z_2} = 1\left[\cos 90° + i \sin 90°\right]$

(Simplify your answers. Type any angle measures in degrees. Use angle measures greater than or equal to 0 and less than 360.)

I ANSWERED -270* FOR BOTH OF THE TWO. This is wrong because the answers need to be in between 0 and 360. So the reference angle is 90*.



Basically my answer was correct. However I wasn't aware that it was supposed to be simplified even further because I've never done that before on a problem like this.

So: 729(cos-90 + i sin -90)

729(0 + i -1)

HOWEVER I CALCULATED SOMETHING WRONG! So I'm not sure how they got a positive number but basically just remember to simplify.