

Find, correct to the nearest degree, the three angles of the triangle with the given vertices. $a(1, 0, 1)$, $b(5, 4, 0)$, $c(1, 4, 5)$

Correct to the nearest degree, the three angles of the triangle are , , and and this can be determined by using the properties of the triangle and dot product formula.

Given :

The vertices of triangle: $a(1, 0, 1)$, $b(5, 4, 0)$, $c(1, 4, 5)$

Let the angles are , , and . Now, the magnitude of AB will be:

Now, the magnitude of AC will be:

Using dot product for finding the angles:

Now, the magnitude of BA will be:

Now, the magnitude of BC will be:

Using dot product for finding the angles:

Now, the sum of interior angles of the triangle is , then:

For more information, refer to the link given below:

brainly.com/question/14455586

Answer:

The three angles are 43.11° , 103.95° and 32.94° .

Step-by-step explanation:

Let us name the corresponding angles to A, B and C to be α , β and γ respectively as shown in the figure below.

Using the vector representation of lines, we get,

Vector $\overrightarrow{AB} = 1-5, 0+4, -1-0 > = -4, 4, -1 >$

Vector $\overrightarrow{AC} = 1-5, 4+4, 5-0 > = -4, 8, 5 >$

Also, we have the modulus value given by,

$|\overrightarrow{AB}| = = = 5.75$

$$|AC| = = = 10.25$$

Now, using the dot product, we have,

$$AB \cdot AC = |AB| |AC| \cos(a)$$

$$\langle -4, 8, 5 \rangle \cdot \langle 5.75, -1, 0 \rangle = 5.75 \times 10.25 \cos a = \langle -4, 8, 5 \rangle \cdot \langle 5.75, -1, 0 \rangle$$

i.e.

i.e.

i.e.

i.e.

i.e.

Hence, $a = 43.11^\circ$

Again, we see that,

$$\text{Vector BA} = \langle 5-1, -4-0, 0+1 \rangle = \langle 4, -4, 1 \rangle$$

$$\text{Vector BC} = \langle 1-1, 4-0, 5+1 \rangle = \langle 0, 4, 6 \rangle$$

Also, we have the modulus value given by,

$$|BA| = = = 5.75$$

$$|BC| = = = 7.21$$

Now, using the dot product, we have,

$$BA \cdot BC = |BA| |BC| \cos(b)$$

$$\langle 4, -4, 1 \rangle \cdot \langle 0, 4, 6 \rangle = 5.75 \times 7.21 \cos b = \langle 4, -4, 1 \rangle \cdot \langle 0, 4, 6 \rangle$$

i.e.

i.e.

i.e.

i.e.

i.e.

Hence, $\angle b = 103.95^\circ$

Since, the sum of all the angles in a triangle is 180° .

Thus, $\angle a + \angle b + \angle c = 180^\circ$

i.e. $43.11^\circ + 103.95^\circ + \angle c = 180^\circ$

i.e. $\angle c = 180^\circ - 147.06^\circ$

i.e. $\angle c = 32.94^\circ$

Hence, the three angles are 43.11° , 103.95° and 32.94° .

Show that the speed of an electron in the n th bohr orbit of hydrogen is $\hat{I} \pm c/n$, where $\hat{I} \pm$ is the fine structure constant. what would be the speed in a hydrogen-like atom with a nuclear charge of ze ?

331 students went on a field trip. 6 buses were filled and 7 students traveled in cars. how many students were in each bus

$2x+3y=12$ Complete the missing value in the solution to the equation. (, 8)

Randy always turns in reports with punctuation errors. the reports of the three other employees on the qa report writing team always produce grammatically clean reports. randy is about to turn in another report, and his manager has already noticed errors. randy demonstrates _____. his sloppy reports can be attributed to a _____ cause.

Nancy walked 50 minutes each day for 4 days last week . gillian walked 35 minutes each day for 6 days last week. how does the total number of minutes that gillian walked compare to the total number of minutes that nancy walked

Which of these age groups has the strongest memory abilities?

Randy works 50 weeks a year, averaging \$500 a week in wages. He is offered a salaried position at \$27,500 a year. What will he make if he accepted the offer?

a. less money

b. more money

c. the same amount

d. can't tell

Emily is a menace to all those around her. she has rapid mood swings which are punctuated by uncontrollable bouts of aggression. she has cuts on her arms and legs owing to self-inflicted injuries. this has forced her parents to limit her interaction with others. they find it hard to control her themselves. according to the "4 ds" of determining whether something is a mental disorder, what does this reveal about emma's behavior?

Which plasma protein is not soluble in blood plasma?

Albumin

Fibrin

Fibrinogen

Another method that might be desired is one that updates the Student's number of credit hours. This method will receive a number of credit hours and add these to the Student's current hours. Which of the following methods would accomplish this? a) public int updateHours()

```
{
```

```
return hours;
```

```
}
```

b) public void updateHours()

```
{
```

```
hours++;
```

```
}
```

c) public updateHours(int moreHours)

```
{
```

```
hours += moreHours;
```

```
}
```

```
d) public void updateHours(int moreHours)
```

```
{
```

```
hours += moreHours;
```

```
}
```

```
e) public int updateHours(int moreHours)
```

```
{
```

```
return hours + moreHours;
```

```
}
```

The Coin class, as defined in Chapter 4, consists of a constructor, and methods flip, isHeads and toString. The method isHeads returns true if the last flip was a Heads, and false if the last flip was a Tails. The toString method returns a String equal to "Heads" or "Tails" depending on the result of the last flip. Using this information, answer questions 4-5.

4) A set of code has already instantiated c to be a Coin and has input a String guess, from the user asking whether the user guesses that a coin flip will result in "Heads" or "Tails". Which of the following sets of code will perform the coin flip and see if the user's guess was right or wrong?

a) `c.flip();`

`if(c.isHeads().equals(guess)) System.out.println("User is correct");`

b) `if(c.flip().equals(guess)) System.out.println("User is correct");`

c) `if(c.isHeads().equals(guess)) System.out.println("User is correct");`

d) `c.flip();`

`if(c.toString().equals(guess)) System.out.println("User is correct");`

e) `c.flip().toString();`

`if(c.equals(guess)) System.out.println("User is correct");`

5) What does the following code compute?

```
int num = 0;
```

```
for(int j = 0; j < 1000; j++)
```

```
{
```

```
c.flip( );  
  
if(c.isHeads()) num++;  
  
}
```

double value = (double) num / 1000;

- a) the number of Heads flipped out of 1000 flips
- b) the number of Heads flipped in a row out of 1000 flips
- c) the percentage of heads flipped out of 1000 flips
- d) the percentage of times neither Heads nor Tails were flipped out of 1000 flips
- e) nothing at all

What is the value of k ?

$$\frac{1}{2}k + 6 = 4k - 8$$

- 4
- 3
- 3
- 4

The study of human cultures and societies and their development is known as:

What is the list of organelles that part in protein synthesis?

Suppose y varies directly with x. if $y=7$ when $x=2$, find y when $x=3$ A. 8

- B. $\frac{7}{6}$
- C. $2\frac{1}{2}$
- D. $\frac{6}{7}$

Which of the following statements provides the best characterization of the members of the White House staff?

100 dL = how many L exp lane please and answer

How is American literature of the seventeenth and eighteenth centuries different from the literature written in Britain during the same period?

Describe how light waves interact with the clothes you are wearing and your eyes.

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