A 56.0kg ice skater spins about a vertical axis through her body with her arms horizontally outstretched, making 2.50 turns each second. The distance from one hand to the other is 1.5m. Biometric measurements indicate that each hand typically makes up about 1.25 % of body weight. Part A) horizontal force must her wrist exert on her hand F=150N

Express the force in part (a) as a multiple of the weight of her hand?

Answer:

Net force = 129.4, Force as multiple of weight of her hand = 18.84

Explanation:

Given Data:

Total body weight = 56.0 kg ;

no. of turns = 2.5/second ;

hand to hand distance = 1.5m ;

weight of hand = 1.25% of body weight ;

Solution:

mass of hand = *56 = 0.7kg ;

radius = d/2 = 1.5/2 = 0.75m ;

Now we need to find velocity, as we know that velocity can be calculated by dividing distance by time

v = d/t = = 11.775 m/s or 12 m/s;

a.

The formula to calculate force is given as

$F = mv^2/r = (0.7*11.775^2)/0.75 = 129.4$ N

b.

To calculate force as multiple of weight on her hand, we need to calculate the gravitational force W on her hand first.

W = gm = 9.81 * 0.7 = 6.867 N

Now the wieght on her hand can be represented by

= 129.4 / 6.867 = 18.84

Which area was NOT one of contention between the triple alliance and the triple entente? North Atlantic

Eastern Europe

Africa

Central Europe
Who of the following was NOT a European religious reformer? Luther

Calvin

Robertson
What is 2.764 rounded to the nearest hundredth
The solid, inorganic portion of the earth system is known as the

Which of the following was part of the Contract with America? a. Limits on military spending
b. Limits on college financial aid
c. Limits on campaign contributions
d. Term limits for congressmen
What causes rough endoplasmic reticulum to look “rough” under a microscope?
Select the correct answer from each drop-down menu. A triangular piece of rubber is stretched equally from all sides, without distorting its shape, such that each side of the enlarged triangle is twice the length of the original side.
The area of the triangle to times the original area.
What is financial management?
PLEASE HELP TIMED Which algebraic expression is a trinomial?
A x^3 + x^2 –square root of x
B 2x^3 – x^2
C 4x^3 + x^2 – 1 over x
D x^6 – x + square root of 6
Match the characteristic or descriptive phrase to the type of application it describes. sound waves soft-tissue imaging electromagnetic wave fetal imaging
answer:
ultra sound
mri
mri
ultra sound
At midnight, the temperature was 31.2°F. In the morning, the temperature was ?6.7°F. Which statement describes the temperatures? At midnight, the temperature was 31.2 degrees above 0, and in the morning, it was 6.7 degrees lower.
At midnight, the temperature was 31.2 degrees below 0, and in the morning, it was 6.7 degrees higher.
At midnight, the temperature was 31.2 degrees above 0, and in the morning, it was 6.7 degrees below 0.
At midnight, the temperature was 31.2 degrees below 0, and in the morning, it was 6.7 degrees above 0.
Expand and simplify 3(x+4)+2(5x-1)
Explain why there are dangers involved in hands-free phone use while driving.
What event severely strained U.S.-Soviet relations? A) the camp David accords
B) the Soviet invasion of Afghanistan
C) the Iranian hostage crisis
A small pizza has a diameter of 21 cm. What is the approximate circumference of the pizza? Use ?= 3.14.
What type of figurative language did Walt Whitman best employ? 1. Walt Whitman is known for his use of metaphors.
2. Walt Whitman is known for his use of similies.
3. Walt Whitman is known for his use of hyperbole.
4. Walt Whitman is known for his use of imagery.
What are the pronouns? 12. The team is winning more games than the coach thought it would.

15. Who is the tennis player wearing the blue shorts and yellow shirt?
17. Since the others have arrived, anything can happen in the game.
18. I advise you to make an appointment to see your career counselor.
20. Both of my parents enjoy exotic foods.

Consider an airplane heading due east at 150 miles/hour relative to the air. The wind is blowing at 7.1 miles/hour at 45º south of east. Drag vectors for the plane and the wind into the vector addition simulation. For this scenario, consider the simulation to be in tens of miles (i.e., 10 on the grid represents 100 miles). What do Rx, Ry, ?, and |R| represent in terms of the force of the wind, and what do they represent in terms of the forces moving the airplane?

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