

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 $F=150\text{N}$

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 = $\frac{1.25}{100} \times 56 = 0.7\text{kg}$;

$$\text{radius} = d/2 = 1.5/2 = 0.75\text{m} \quad ;$$

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

$$v = d/t = 11.775 \text{ m/s or } 12 \text{ m/s};$$

a.

The formula to calculate force is given as

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

b.

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

$$W = gm = 9.81 * 0.7 = 6.867 \text{ N}$$

Now the wieght on her hand can be represented by

$$= 129.4 / 6.867 = 18.84$$

Kevin says the line P and m will eventually Intersect is Kevin correct

In old times, before there were train signals, people who worked on the railroad would often put their ear down to the train track to listen for an oncoming train.

Why would this result in hearing the train further off than just listening for the train through the air?

Question options:

People did not do this because sound travels faster through less dense material, like air, rather than more dense materiel, like train tracks.

Sound travels slower, but louder through solid material because it is more dense, so the train could be heard better this way.

Sound travels slower in air because there are often trees and other items blocking the sound.

Sound waves travel faster in more dense material, and the more dense the material the louder the sound is.

Solve for x

$$(x+7)^2-49=0$$

find the smaller and larger x

smaller x=

larger x=

How do you write parentheses inside of parentheses?

What is the standard form of nine and fifteen hundredths

What are the anti-terror laws in australia??

Which equation shows $y=3x+52$ in standard form? a. $3x+4y=10$

b. $3x+4y=10$

c. $4x+3y=10$

d. $4x+3y=10$

You can tell Word to make all the suggested revisions to a document at once by clicking the _____ button on the Review tab. a.

Accept All Changes in Document

b.

Review Comments

c.

Delete all Comments in Document

d.

Track Changes

What is the solution of the system of equations?

$$4x-8y=0$$

$$5x+2y=6$$

Which of the following was one of the influences of the roman republic in the farming of the constitution? 1. a centralized government that provides for more order

2. elected representatives who are the voice of the people

3. a judicial system that is controlled by people

4. a democratic government run by the people

Escribe el pronombre para reemplazar (replace) el OBJETO DIRECTO. El hombre escribe una novela. -> El hombre _____ escribe.

Escribe el pronombre para reemplazar (replace) el OBJETO DIRECTO.

Roberto come la sopa. -> Roberto ____ come.

Escribe la forma correcta del verbo reflexivo.

- Yo (ponerse) la ropa.

Martha is 25 years old, owns her car, but walks to work. Her collision deductible is \$100, and she does not have comprehensive coverage. If her car's safety rating is 20, what is her annual premium?

☐ O

A. \$820

☐ O

B. \$2460

☐ O C. \$2706

☐ O

D. \$2600

What were the issues between the European nations that really led to war? militarism imperialism alliances all of the above none of the above

Did George Washington live in the white house Yes Or No? Why Or Why Not?

The local parts shop buys a machine that costs \$500,000. Its value depreciates exponentially each year by 10%. What is the machine's value after 5 years?

Round your answer to the nearest integer.

The main theme of "The Two Offers" is _____. different ideas about women's roles close family ties between cousins the relationship between sisters and brothers the difficulties of having both a career and a family

God's provision of clothing for Adam and Eve illustrates: creation

ransom

Atonement

Resurrection

What are wandering or roving tribes called? The answer has to be six letters long.

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