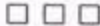


(d) Explain why phosphorus trichloride (PCl_3) is polar.

God made it that way.



(b) Sea salt is commercially obtained from sea water by the process of evaporation and crystallization. The main component of sea salt is sodium chloride.

What type of attractive force or bond holds the sodium ions and chloride ions together in a crystal of sodium chloride?

 Ionic bond



PETER

1.21

4c) Expand

~~$a^3 + 3c - 2$~~

$$(a+b)^n$$

Very funny, Peter.

$$= (a + b)^n$$

$$= (a + b)^n$$

$$= (a$$

~~+~~

$$b)^n$$

~~etc...~~

CHECKING IN (Answer on your own and hand in to your instructor)

The water of the earth's oceans stores lots of heat. An engineer designed an ocean liner that would extract heat from the ocean's waters at $T_h = 10^\circ\text{C}$ (283 K) and reject heat to the atmosphere at $T_l = 20^\circ\text{C}$ (293 K). He thought he had a good idea, but his boss fired him. Explain.

Because he slept with his boss' wife.

- Jethro...
Oh dear!

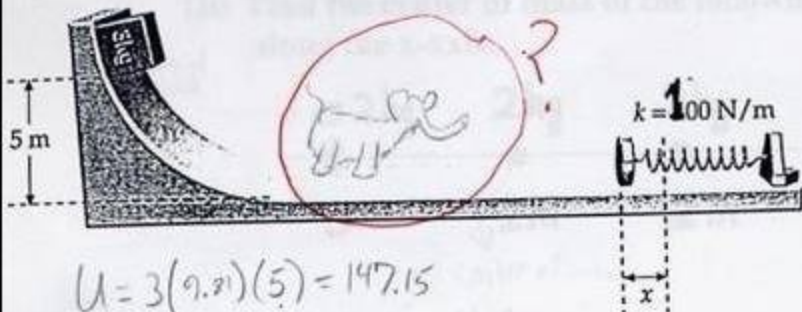
2. A 3-kg object is released from rest at a height of 5m on a curved frictionless ramp. At the foot of the ramp is a spring of force constant $k = 100 \text{ N/m}$. The object slides down the ramp and into the spring, compressing it a distance x before coming to rest.

10

(a) Find x .

5

(b) Does the object continue to move after it comes to rest? If yes, how high will it go up the slope before it comes to rest?



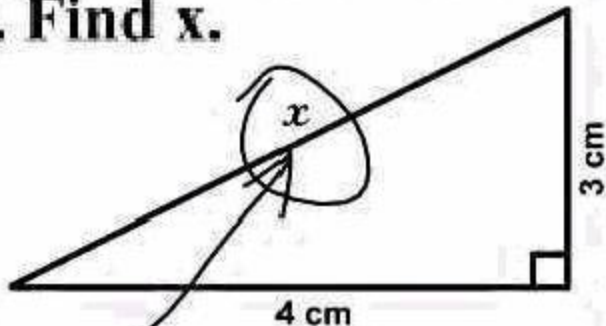
$$U = 3(9.81)(5) = 147.15$$

$$U_s = \frac{1}{2}(100)x^2 = 50x^2 \quad \dots ?$$

NO. there is an elephant in the way.



3. Find x .



Here it is