

If x is even, then x^2 is even.

You want to prove " $\forall x(\text{Even}(x) \rightarrow \text{Even}(x^2))$ "

What variable(s) do you need (are they arbitrary?)

What do you expect the very big proof steps to be?

1. Are you using the direct proof rule?
2. If so, what will your assumption be and what are you targeting in that subproof?
3. What quantifiers do you need to introduce/eliminate
4. Any other big steps you can think of?

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Divides

Divides

For integers x, y we say $x|y$ (" x divides y ") iff there is an integer z such that $xz = y$.

Which of these are true?

$$2|4$$

$$4|2$$

$$2|-2$$

$$5|0$$

$$0|5$$

$$1|5$$

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Modular Arithmetic

We need a definition! We can't just say "it's like a clock"

Pause what do you expect the definition to be?

Is it related to % ?

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Skeleton of an Exists Proof

To show $\exists x(P(x))$

Consider x =[the value that will work]

[Show that x does cause $P(x)$ to be true.]

So [value] is the desired x .

You'll probably need some "scratch work" to determine what to set x to.
That might not end up in the final proof!

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