The first choice is what it would mean to say that it’s (Turing) acceptable – not what it means to say that it’s (Turing) decidable.

The second answer is a perfect translation of what it means to say that it’s decidable.

The third answer is total nonsense: “decides if PSPACE (a class of languages, you can infer from the setup) is a language”?! You know that that language is context free, but how is that responsive / relevant to the question? It’s not.

- You know that that language is context free, but how is that responsive / relevant to the question? It’s not
- Yep
  S → A T | T B  // excess a’s or excess b’s
  T → aTb | e    // eq # of a’s and b’s
  A → aA | a     // one or more a’s
  B → bB | b     // one or more b’s
- Wrong both because CFLs are NOT closed under complement (we never claimed they were) and L is not the complement of the language named.

- An r.e. language might or might not be decidable
- sure
- Not at all: recursive languages are a (proper) subset of r.e. languages, they’re not the same thing
Yep, we said all these things and more.

It means **an encoding of** (the thing inside the brackets).

Sometimes people say a "natural" encoding.

Said differently: a string that represents, in an unnamed but natural way, whatever is in the angle brackets.

Yes. You could write a computer program to decide if \( n \) (written in unary or binary, it doesn't matter) is a prime. By the Church-Turing thesis (or the digital-modelling thesis), that is enough: you could translate your program to a TM if need be.