1) Find one Siberian Husky who does not like to chase squirrels.

2) Show that every word in the paper is polite (not a swear).

3a) No; lots of things have 4 sides and are not a rectangle

b) If a polygon is a rectangle, then the polygon has 4 sides

c) yes

d) If a polygon does not have 4 sides, then it is not a rectangle e) yes

f) If a polygon is not a rectangle, then it does not have 4 sides g) no

h) yes... the original statement has the same truth value as the contrapositive, and the inverse and converse have the same truth value as each other

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4a) yes

b) If 5x + 12 = 27, then x = 3

c) yes

d) If x \neq 3, then 5x + 12 \neq 27

e) yes (hard to prove, but it is)

f) If 5x + 12 \neq 27, then x \neq 3

g) yes

h) yes... all statements are true, and that's fine
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5a) If a person is a Democrat, then they are not a Republican. AND

- If a person is not a Republican, then they are a Democrat.
- b) First is true, second is false.
- c) False, since they two if-thens are not both true

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6a) If a number is divisible by 5, then it ends in 5 or 0. AND
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If a number ends in 5 or 0, then it is divisible by 5.

b) Both true, we learned this in August or September c) True

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7) Valid,
(p -> q) and (q -> r) together imply (p -> r)
Transitive property
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8) Valid,(p or NOT q) and (q) together imply pDisjunctive syllogism but with Not q in the first part instead of the second part
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9) Valid, (p -> q) and p together imply q Law of detachment

10) Valid, (p -> q) and (not q) together imply (not p) Law of contraposition

11) Not valid, fallacy of the inverse There could be small crumbs for lots of reasons besides The Grinch

12) Not valid, fallacy of the converse I could have Amazon Prime and I get free shipping on every order. This does not contradict "If I order more than \$35 on Amazon, I get free shipping". Because I always get free shipping.

13) Valid. This is one of the DeMorgan's Laws together with Simplification not (p or q) is equivalent to (not p) and (not q), from which we get (not p)

14) Invalid, I didn't do both, but I might have done one or the other