1)

a) $\neg\exists x\, P(x)$
b) $\exists x\, \neg P(x)$
c) $\exists x\, P(x)$
d) $\exists x \exists y\, (x \neq y \ \wedge\ P(x) \ \wedge\ P(y))$
e) $\forall x \forall y\, ((P(x) \ \wedge\ P(y)) \rightarrow x = y)$
f) $\exists x\, P(x) \ \wedge\ \forall y\, (P(y) \rightarrow y = x)$
g) $\forall x\, (P(x) \rightarrow Q(x))$
h) $\forall x\, (Q(x) \rightarrow P(x))$

2)

b) $(\exists a, b \in N)\, [(x = a \times y + b \times z) \ \wedge\ (a = b)]$
c) $(\forall m \in N)\, [(y \mid m \ \wedge\ z \mid m) \rightarrow (\forall n \in N)[((y \mid n \ \wedge\ z \mid n) \rightarrow (m \leq n)) \ \wedge\ (m = x)]]$
d) $(x = 3) \ \vee\ (x = 1) \ \vee\ (\forall a, b \in N\, [(x = a \times b) \rightarrow ((a = 1) \ \vee\ (b = 1))])$