The axioms of Zermelo-Fraenkel set theory with choice ZFC

In principle all of mathematics can be derived from these axioms

Extensionality	$\forall X\,\forall Y\,[\,X = Y \quad\Leftrightarrow\quad \forall z(z \in X \;\Leftrightarrow\; z \in Y)\,]$
Pairing	$\forall x\,\forall y\,\exists Z\,\forall z\,[\,z \in Z \quad\Leftrightarrow\quad z = x$ or $z = y\,]$
Union	$\forall X\,\exists Y\,\forall y\,[\,y \in Y \quad\Leftrightarrow\quad \exists Z(Z \in X$ and $y \in Z)\,]$
Empty set	$\exists X\,\forall y\,[\,y \notin X\,]$ (this set X is denoted by $\emptyset$)
Infinity	$\exists X\,[\,\emptyset \in X$ and $\forall x(x \in X \Rightarrow x \cup \{x\} \in X)\,]$
Power set	$\forall X\,\exists Y\,\forall Z\,[\,Z \in Y \quad\Leftrightarrow\quad \forall z(z \in Z \;\Rightarrow\; z \in X)\,]$
Replacement	$\forall x \in X\,\exists! y\,P(x, y) \quad\Rightarrow\quad [\,\exists Y\,\forall y\,(y \in Y \;\Leftrightarrow\; \exists x \in X\,(P(x, y)))\,]$
Regularity	$\forall X\,[\,X \neq \emptyset \quad\Rightarrow\quad \exists Y \in X\,(X \cap Y = \emptyset)\,]$
Axiom of choice	$\forall X\,[\,\emptyset \notin X$ and $\forall Y, Z \in X(Y \neq Z \;\Rightarrow Y \cap Z = \emptyset)$ $\quad\Rightarrow\quad \exists Y\,\forall Z \in X\,\exists! z \in Z\,(z \in Y)\,]$

$\forall =$ for all $\qquad \exists! =$ there exists a unique $\qquad P$ is any formula that does not contain Y

$z \in X \cup Y \;\Leftrightarrow\; z \in X$ or $z \in Y \qquad z \in X \cap Y \;\Leftrightarrow\; z \in X$ and $z \in Y$