

#### Recall 4

#### Itô, Meyer, and Tanaka: formulae

1. Can you state the general Itô's formula?
2. What is the local time of an  $(\mathbb{F}, \mathbb{P})$ -good integrator  $X$  at zero?
3. What is the Itô–Tanaka–Meyer formula?

#### Bichteler–Dellacherie: good integrators are semi-martingales

1. Let  $X$  be a càdlàg,  $\mathbb{F}$ -adapted process. Can you give two equivalent statements to the statement “ $X$  is an  $(\mathbb{F}, \mathbb{P})$ -good integrator”?
2. Let  $X$  be an  $(\mathbb{F}, \mathbb{P})$ -semi-martingale and  $\xi$  an  $\mathbb{F}$ -predictable process. Can you give an equivalent statement to the statement “ $\xi \in \mathcal{L}(X, \mathbb{F}, \mathbb{P})$ ”?

#### Basic notions and probabilistic setting

1. What are the five elements that the modern representation and description of a financial market, from a probabilistic perspective, relies on?
2. What is a portfolio? When is it said self-financing?
3. What is the no-arbitrage condition (NA)?

#### Abstract financial markets

1. What is the set of m-admissible  $(\mathbb{F}, \mathbb{P})$ -wealth processes?