

Solution for Problem 08 Ride at the Fair

The amounts up to 20p that cannot be made from exactly three coins are:

1p, 2p, 10p, 18p, 19p.

Lucy could have given her mum:

$$3p = 1p + 1p + 1p$$

$$4p = 2p + 1p + 1p$$

$$5p = 2p + 2p + 1p$$

$$6p = 2p + 2p + 2p$$

$$7p = 5p + 1p + 1p$$

$$8p = 5p + 2p + 1p$$

$$9p = 5p + 2p + 2p$$

$$11p = 5p + 5p + 1p$$

$$12p = 5p + 5p + 2p$$

$$13p = 10p + 2p + 1p$$

$$14p = 10p + 2p + 2p$$

$$15p = 5p + 5p + 5p$$

$$16p = 10p + 5p + 1p$$

$$17p = 10p + 5p + 2p$$