

**AQA – Statistical distributions – AS Mathematics P2**

1. June/2020/Paper\_2/No.13

The random variable  $X$  is such that  $X \sim B\left(n, \frac{1}{3}\right)$

The standard deviation of  $X$  is 4

Find the value of  $n$ .

Circle your answer.

[1 mark]

9

12

18

72

**2. June/2020/Paper\_2/No.16**

A mathematical puzzle is published every day in a newspaper.

Over a long period of time Paula is able to solve the puzzle correctly 60% of the time.

(a) For a randomly chosen 14-day period find the probability that:

(a) (i) Paula correctly solves exactly 8 puzzles

[1 mark]

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(a) (ii) Paula correctly solves at least 7 but not more than 11 puzzles.

[2 marks]

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(b) State one assumption that is necessary for the distribution used in part (a) to be valid.  
[1 mark]

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