2 Numbers are stored in a computer system using binary floating-point representation with:

- 12 bits for the mantissa
- 4 bits for the exponent
- two's complement form for both the mantissa and the exponent
- 2 bytes in total.

(a) Outline the effect of changing the number of bits used to store the mantissa to 10 bits, in this system.

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(b) Describe **one** example of a situation that could cause an overflow to occur and the consequences of such an overflow.

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