

5 A central processing unit (CPU) performs the fetch–decode–execute (FDE) cycle.

(a) Give the name of **two** registers that are used in the fetch stage of the cycle.

1 .....

2 .....

[2]

(b) Describe what happens at the decode stage of the cycle.

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.....  
.....  
.....  
..... [3]

(c) Give **one** register in the CPU that is used in the execute stage of the cycle.

..... [1]

(d) Buses are used in the CPU to transmit data through the FDE cycle.

Circle **three** buses that are used in the CPU.

fetch	address	register	execute
data	decode	calculation	
central	value	binary	control

[3]

(e) A user changes their CPU from one with a dual core and a clock speed of 2.4 GHz to one with a dual core and a clock speed of 3.5 GHz.

Explain the effect this change will have on the performance of the CPU.

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.....  
..... [2]