

**A Level Biology A**  
**H420/01 Biological Processes**

**Question Set 19**

19 (a)

Resistance training with weights can increase muscle mass in the body. It can also lead to vascularisation, where blood vessels become more visible through the skin. Fig. 19.1 shows vascularisation.



Fig. 19.1

Vascularisation occurs in bodybuilders because blood vessels are pushed to the surface by increased muscle mass. They can also become more visible due to reduced body fat and dehydration.

Explain why the visible blood vessels are likely to be veins.

[3]

19 (b)

Some bodybuilders use anabolic steroids to increase their muscle mass.

Suggest why anabolic steroids are effective when applied to the surface of the skin.

[2]

19 (c) (i) Illegal use of steroids is widespread in professional sport.

The International Olympic Committee (IOC) tests the urine of athletes to help prevent steroid abuse.

Fig. 19.2 is a graph showing tests carried out by the IOC between 1986 and 1994.

- The bars represent the number of urine samples tested.
- The line shows the percentage of samples testing positive for the steroid testosterone.

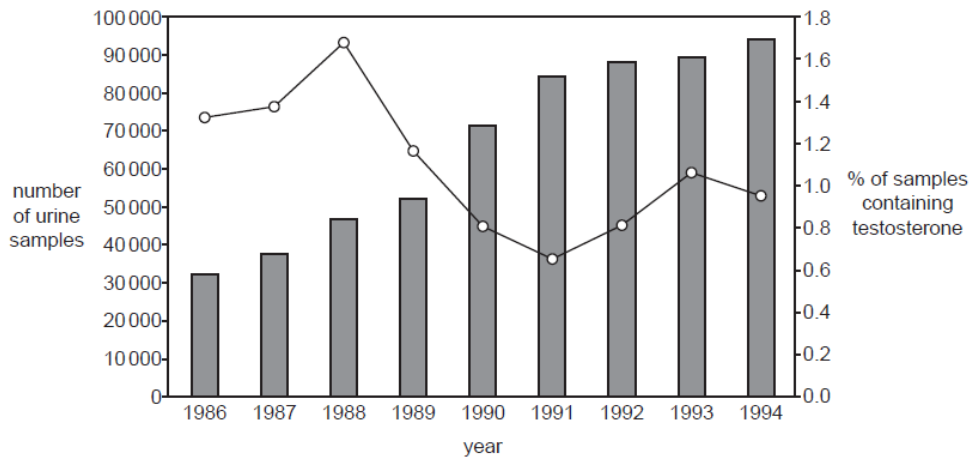


Fig. 19.2

Calculate the change in the **number** of samples testing positive for testosterone between 1988 and 1991.

number of samples = .....

[3]

19 (c) (ii) Based on the findings in Fig. 19.2, the head of the IOC stated that:

“The IOC is succeeding in reducing the level of steroid abuse in professional sport.”

Evaluate this statement using the data in Fig. 19.2.

[6]

**Total Marks for Question Set 19: 14**

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