

**HIGHER TIER  
MINI PRACTICE EXAM 12**

**CALCULATOR ALLOWED  
20 MINUTES ALLOWED**

1.  
The conversion graph to the right can be used to convert between pounds and US dollars.

(a) Convert \$64 into pounds.

(1)

(b) Convert £360 into dollars.

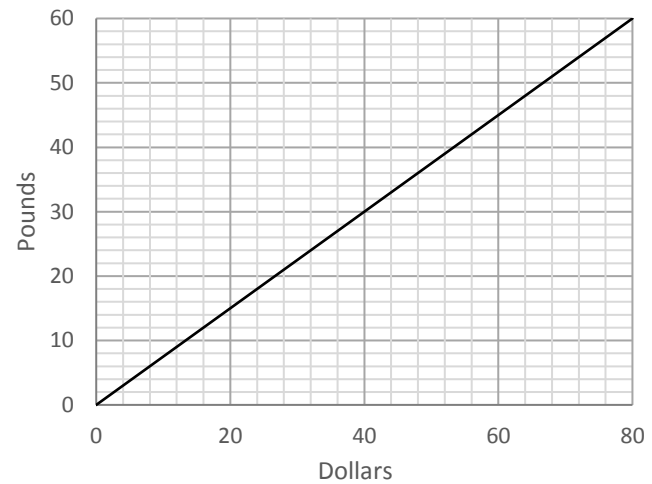
(1)

(c) Rob is shopping for a television.

Television A costs £1,550 + VAT at 20%.

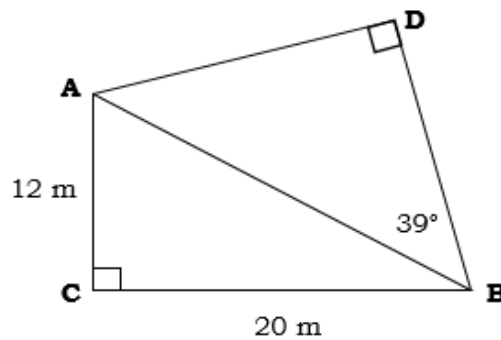
Television B costs \$2,400 + no VAT.

Which television is cheaper?



(3)

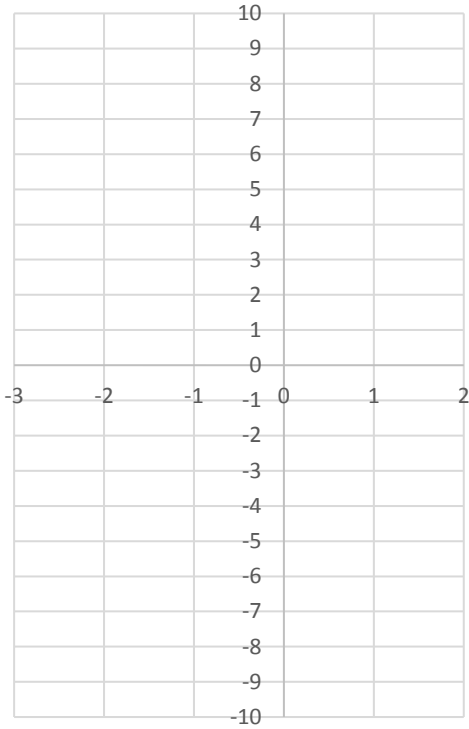
2.  
Find the length of DB, to 2 significant figures.



(5)

3.

On the axis below, plot the graph of  $y = x^3 + 3x^2 - 10$  for  $x = -3$  to  $2$ .

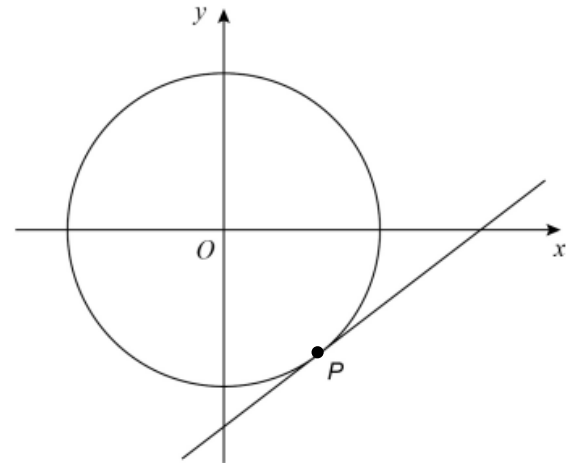


(4)

4.

The circle pictured below has equation  $x^2 + y^2 = 100$ .  
P is a point on the circumference of the circle with y co-ordinate -8.

Find the equation of the tangent to the circle at point P. Give your answer in the form  $ax + by + c = 0$ .



(6)