

Higher Maths  
SQA 2015 Paper 1  
Question 11



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$T(-2, -5)$  lies on the circumference of the circle with equation

$$(x + 8)^2 + (y + 2)^2 = 45.$$

- (a) Find the equation of the tangent to the circle passing through  $T$ . 4
- (b) This tangent is also a tangent to a parabola with equation  $y = -2x^2 + px + 1 - p$ ,  
where  $p > 3$ .  
Determine the value of  $p$ . 6
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Answers:

- (a)  $y = 2x - 1$
- (b)  $p = 10$