RIGOUR

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Numeracy for Learning, Life and Work

November Higher Maths Calendar

#abitofmathseveryday

1 $h^{-1}(x) = \sqrt[3]{x+8}$					
2 Since only one point of contact, line is tangent (or since $b^2 - 4ac = 0$) Point of contact is (3, 9)	**3** C(0, 4) radius = 11	**4** $-2(x-3)^2 + 25$	**5** $y = \log_5 x$	**6** $y = -4x - 12$	**7** $x = \frac{\pi}{3}, \frac{\pi}{2}, \frac{3\pi}{2}, \frac{5\pi}{3}$
8 $y = -3x + 19$	**9** Limit exists since $-1 < 0{\cdot}2 < 1$ Limit = -50	**10** $-\frac{5}{8}$	**11** $f(x) = x^3 + 8x - 16$	**12** $2\cos(x - 330)°$	**13** $40(5x - 2)^7$
14 $(x+1)(x-5)(x+4)$	**15** $x < -6$ and $x > 3$	**16** $k = 6$	**17** $x = \frac{3}{2}$	**18** 10 units	**19** $u_7 = 10$
20 $y = 5x - 26$	**21** $\overrightarrow{RS} : \overrightarrow{ST} = 3 : 4$ and S is a common point	**22** $y = -\frac{1}{4}x + 2$	**23** $x \leq \frac{9}{4}$	**24** Max TP @ (-2, 27), Min TP @ (2, -5)	**25** $-\frac{25}{7}$
26 $m = -1$	**27** a = 6 b = 8 c = 5	**28** $y = 2^x$	**29** $y = -(x+3)^2(x-5)$	**30** $\frac{81}{4}$ $units^2$	