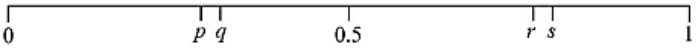
7 MUST KNOW QUESTIONS TO *CONQUER*

NUMBERS

1	Consider the following set of numbers. $29, \sqrt{5}, \frac{3\pi}{2}, 1, 0.\dot{2}\dot{3}, 7^3, \sqrt{16}, 9$ Write down all (a) the irrational number(s), (b) the prime number(s), (c) the perfect square(s).	[1] [1] [1]
2	The numbers *p*, *q*, *r*, and *s* are represented on the number line.  The values of *p*, *q*, *r*, and *s* are listed below. $\frac{1}{3}$ 33.3% $\frac{\sqrt{2}}{2}$ $\frac{\pi}{4}$ Find *p*, *q*, *r*, and *s*.	[2]
3	For the list of numbers below, $-1.5, \frac{\pi}{2}, \sqrt{10}, 15, \sqrt[3]{27}, 0.21$ (a) State all the irrational number(s). (b) State all the composite number(s). (c) Write down the numbers in ascending order.	[1] [1] [2]
4	Evaluate the following without using calculator. Show your working clearly. (a) $2-(-3)-5\times5\div(10-15)^2$ (b) $3\frac{3}{5}+(-2)-\left(\frac{2}{3}+\frac{5}{6}\right)\div1\frac{1}{6}$	[2] [3]
5	The statement below describes a positive integer. • It is a product of two different prime numbers. Write the number less than or equal to 20 that fit the above statement.	[2]

6	The temperature in New York is $-3℃$ and the temperature in Moscow is $-8℃$. (a) Write down how many degrees colder it is in Moscow than it is in New York. (b) New York is 10 degrees warmer than Anchorage. Write down the temperature in Anchorage.	[1] [1]
7	(a) Write the following in order of size, starting with the smallest. $0.\dot{3} \quad \frac{3}{10} \quad 302\% \quad \pi \quad \sqrt{0.3}$ (b) Write down the rational numbers from the following set of numbers. $3.14 \quad 0.810 \quad \pi \quad (-2)^2 \quad 3\sqrt{3} \times \sqrt{3} \quad \sqrt[3]{-10}$	[1] [2]

Answer Key:

1	Ans: (a) $\sqrt{5}, \frac{3\pi}{2}$ (b) 29 (c) $\sqrt{16}$, 1, 9	
2	Ans: $p = 33.3\%, q = \frac{1}{3}, r = \frac{\sqrt{2}}{2}, s = \frac{\pi}{4}$	
3	Ans: (a) $\frac{\pi}{2}, \sqrt{10}$, (b) 15, (c) $-1.5, 0.\dot{2}1, \frac{\pi}{2}, \sqrt[3]{27}, \sqrt{10}, 15$	
4	Solutions: (a) $2 + 3 - 25 \div (-5)^2$ $= 2 + 3 - 25 \div 25$ $= 5 - 1 = 4$ (b) $\frac{18}{5} - 2 - \left(\frac{4}{6} + \frac{5}{6}\right) \div \left(\frac{7}{6}\right)$ $= \frac{18}{5} - 2 - \frac{9}{6} \div \frac{7}{6}$ $= \frac{18}{5} - 2 - \frac{9}{6} \times \frac{6}{7}$ $= \frac{18}{5} - 2 - \frac{9}{7}$ $= \frac{126}{35} - \frac{70}{35} - \frac{45}{35} = \frac{11}{35}$ Ans: (a) 4 (b) $\frac{11}{35}$	
5	Ans: $6, 10, 14, 15$	
6	Solution: (b) Temp at Anchorage $= -3 - 10$ $= -13℃$ Ans: (a) 5℃ , (b) $-13℃$	
7	Ans: (a) $\frac{3}{10}$, 0.3, $\sqrt{0.3}$, 302%, π, (b) 3.14, 0.810, $(-2)^2$, $3\sqrt{3} \times \sqrt{3}$	