EXPONENTS AND POWERS

Q1. Express each of the following in power notation :

a) $(-7) \times (-7) \times (-7) \times (-7) \times (-7)$
b) $-32/243$

Q2. Simplify the following :

a) $[\{(-1/4)^2\}^{-2}]^{-1}$
b) $(-2/3)^7 \div (-2/3)^4$

Q3. By what number should $(3)^{-3}$ be multiplied to obtain 4?

Q4. Find x such that $(3/5)^3 \times (3/5)^{-6} = (3/5)^{2x-1}$.

Q5. Simplify :$(3^5 \times 10^5 \times 25) / (5^7 \times 6^5)$.

Q6. Simplify : $(16 \times 2^{n+1} - 4 \times 2^n) / (16 \times 2^{n+2} - 2 \times 2^{n+2})$.

Q7. Find the value of n when :

i) $5^{2n} \times 5^3 = 5^9$
ii) $8 \times 2^{n+2} = 32$
iii) $6^{2n+1} \div 36 = 6^3$

Q8. If $2^{n-7} \times 5^{n-4} = 1250$, find the value of n.

Q9. Express each of the following as a standard form :

i) Distance between Earth and Moon = 384000000m.
ii) Population of India in March 2001 = 1027000000.

Q10. Find the following :

i) $(1/2)^{-2} + (1/3)^{-2} + (1/4)^{-2}$
ii) $(2^{-1} - 4^{-1})^2$