Properties of Logarithms

Write the property of logarithms that each equation demonstrates.

1) $\log_3 8 + \log_3 11 = \log_3 88$

2) $\log_4 14 - \log_4 7 = \log_4 2$

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3) $\log_6 9^6 = 6\log_6 9$

4) $\log_5 5 + \log_5 25 = \log_5 125$

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5) $\log_7 2 - \log_7 3 = \log_7\left(\dfrac{2}{3}\right)$

6) $2\log 4 = \log 4^2$

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7) Which property of logarithms does this equation demonstrate $\log_2 5^3 = 3\log_2 5$?

   a)   Quotient Property   b)   Product Property   c)   Power Property

8) Which property of logarithms does this equation demonstrate $\log 9 - \log 7 = \log\left(\dfrac{9}{7}\right)$?

   a)   Power Property   b)   Quotient Property   c)   Product Property