Name:

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Problem 1.(10 points) Let a, b be non-zero real numbers and m, n integers. Fill in the blanks

(i)
$$a^0 =$$
______,

(ii)
$$a^{-n} =$$
______,

(iii)
$$a^m \cdot a^n = \underline{\hspace{1cm}},$$

(iv)
$$\frac{a^m}{a^n}$$
 ______,

$$(v) (a \cdot b)^n \underline{\hspace{1cm}},$$

(vi)
$$\left(\frac{a}{b}\right)^n$$
 _____.