



Name: \_\_\_\_\_



1) Evaluate the following:

a)  $5^{-2}$

$$\frac{1}{25}$$

e)  $4^{-2}$

$$\frac{1}{16}$$

e)  $8^{-2}$

$$\frac{1}{64}$$

b)  $3^{-3}$

$$\frac{1}{27}$$

f)  $10^{-3}$

$$\frac{1}{1000}$$

f)  $12^{-2}$

$$\frac{1}{144}$$

c)  $2^{-1}$

$$\frac{1}{2}$$

g)  $6^{-2}$

$$\frac{1}{36}$$

g)  $7^{-2}$

$$\frac{1}{49}$$

2) Evaluate the following:

a)  $25^{\frac{1}{2}}$

$$5$$

e)  $64^{\frac{1}{3}}$

$$4$$

i)  $27^{\frac{2}{3}}$

$$9$$

b)  $36^{\frac{1}{2}}$

$$6$$

f)  $9^{\frac{3}{2}}$

$$27$$

j)  $4^{\frac{3}{2}}$

$$8$$

c)  $64^{\frac{1}{2}}$

$$8$$

g)  $16^{\frac{3}{2}}$

$$64$$

k)  $32^{\frac{2}{5}}$

$$4$$

d)  $1000^{\frac{1}{3}}$

$$10$$

h)  $8^{\frac{4}{3}}$

$$16$$

l)  $16^{\frac{3}{4}}$

$$8$$

3) Evaluate the following:

a)  $16^{-\frac{1}{2}}$

$$\frac{1}{4}$$

d)  $64^{-\frac{1}{3}}$

$$\frac{1}{4}$$

g)  $125^{-\frac{1}{3}}$

$$\frac{1}{5}$$

b)  $4^{-\frac{1}{2}}$

$$\frac{1}{2}$$

e)  $100^{-\frac{3}{2}}$

$$\frac{1}{1000}$$

h)  $81^{-\frac{1}{4}}$

$$\frac{1}{3}$$

c)  $25^{-\frac{1}{2}}$

$$\frac{1}{5}$$

f)  $4^{-\frac{3}{2}}$

$$\frac{1}{8}$$

i)  $8^{-\frac{4}{3}}$

$$\frac{1}{16}$$

4) Simplify:

a)  $\left(\frac{2}{5}\right)^2$

$$\frac{4}{25}$$

e)  $\left(\frac{2}{3}\right)^{-2}$

$$\frac{9}{4}$$

i)  $\left(\frac{9}{16}\right)^{\frac{1}{2}}$

$$\frac{3}{4}$$

b)  $\left(\frac{3}{4}\right)^2$

$$\frac{9}{16}$$

f)  $\left(\frac{5}{6}\right)^{-2}$

$$\frac{36}{25}$$

j)  $\left(\frac{81}{49}\right)^{\frac{1}{2}}$

$$\frac{9}{7}$$

c)  $\left(\frac{5}{6}\right)^2$

$$\frac{25}{36}$$

g)  $\left(1\frac{1}{3}\right)^{-3}$

$$\frac{27}{64}$$

k)  $\left(\frac{25}{16}\right)^{-\frac{1}{2}}$

$$\frac{4}{5}$$

d)  $\left(\frac{3}{5}\right)^{-1}$

$$\frac{5}{3}$$

h)  $\left(2\frac{1}{5}\right)^{-2}$

$$\frac{25}{121}$$

l)  $\left(3\frac{3}{8}\right)^{-\frac{2}{3}}$

$$\frac{4}{9}$$

**Exam question:**

Calculate the following, leaving your answer as simple as possible.

$$\left(\frac{2}{3}\right)^{-2} \times \left(\frac{4}{9}\right)^{\frac{1}{2}}$$

$$\frac{9}{4} \times \frac{2}{3} = \frac{3}{2}$$

