

21. Fraction Division

$$a \div (b/c) = a \times (c/b)$$

a)

$$\text{Proof: } \frac{1}{b/c} = c/b$$

Let $x = \frac{1}{b/c}$. Then $(b/c) \times x = 1$ (Definition of Division)

Multiply both sides by c : $b \times x = c$

Therefore $x = c / b$

Thus $\frac{1}{b/c} = c/b$ **Q.E.D.**

$$6 \div 1/2 = 6 \times \frac{1}{1/2} = 6 \times 2/1 = 12$$

$$4 \div 2/3 = 4 \times \frac{1}{2/3} = 4 \times 3/2 = 6$$

$$1/3 \div 2 = 1/3 \times \frac{1}{2} = 1/3 \times 1/2 = 1/6$$

$$1/4 \div 3 = 1/4 \times \frac{1}{3} = 1/4 \times 1/3 = 1/12$$

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b)

$$8 \div \frac{1}{4} = \boxed{}$$

c)

$$9 \div \frac{3}{4} = \boxed{}$$

d)

$$\frac{1}{5} \div 2 = \boxed{}$$

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e)

$$\frac{1}{6} \div 4 = \boxed{}$$

f)

$$10 \div \frac{5}{6} = \boxed{}$$