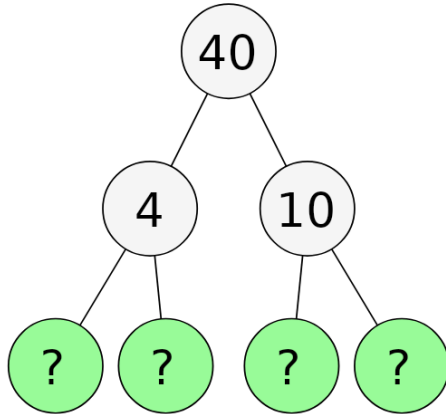




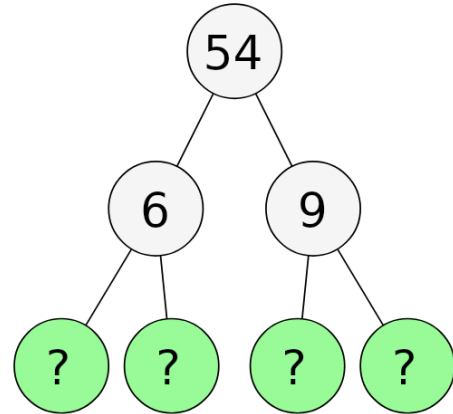
Factoring, Multiplication, Division, Fractions - Advanced

- 1 Complete the factor tree to find the prime factorization of this number



- | | | |
|--|-------------------------|--|
| A $2 \times 2 \times 10$ | B $2 \times 4 \times 5$ | C $2 \times 2 \times 2 \times 5 \times 11$ |
| D $2 \times 2 \times 2 \times 5 \times 13$ | E $2 \times 2 \times 5$ | F $2 \times 2 \times 2 \times 5$ |

- 2 Complete the factor tree to find the prime factorization of this number



- | | | |
|--|-------------------------|-------------------------|
| A $2 \times 3 \times 3 \times 3$ | B $2 \times 3 \times 9$ | C $3 \times 3 \times 3$ |
| D $2 \times 3 \times 3 \times 3 \times 11$ | E $2 \times 3 \times 3$ | F $2 \times 9 \times 3$ |

- 3 Show the prime factorization of this number

45

- | | |
|-----------------|----------------|
| A {3, 3, 3, 5} | B {3, 3, 5, 5} |
| C {2, 3, 3, 5} | D {3, 3, 5, 7} |
| E {3, 3, 5, 11} | F {3, 3, 5} |

- 4 Show the prime factorization of this number

18

- | | |
|----------------|-----------------|
| A {2, 2, 3, 3} | B {2, 3, 3, 13} |
| C {2, 3, 3} | D {2, 3, 3, 5} |
| E {2, 3, 3, 7} | F {2, 3, 3, 11} |

- 5 Use factorization to simplify

$$\frac{3 \times 3}{3} \times \frac{3 \times 7}{3 \times 3 \times 5}$$

- | | | |
|-----------------|-----------------|-----------------|
| A $\frac{5}{3}$ | B $\frac{2}{7}$ | C $\frac{5}{6}$ |
| D $\frac{2}{3}$ | E $\frac{7}{5}$ | F $\frac{3}{4}$ |

- 6 Use factorization to simplify by showing what factors in this fraction multiplication can be cancelled out

$$\frac{24}{28} \times \frac{1}{2}$$

- | |
|--|
| A $\frac{2 \times 2 \times 2 \times 3}{2 \times 2 \times 7} \times \frac{1}{2}$ |
| B $\frac{2 \times 2 \times 2 \times 3}{2 \times 2 \times 7} \times \frac{1 \times 1}{2}$ |



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7 Use factorization to simplify

$$\frac{3}{9} \times \frac{45}{9}$$

A $\frac{7}{2}$	B $\frac{2}{7}$	C $\frac{5}{3}$
D $\frac{3}{5}$	E $\frac{5}{7}$	F $\frac{5}{6}$

8 Use factorization to simplify

$$\frac{2 \times 3}{5} \div \frac{2 \times 2 \times 7}{2 \times 5}$$

A $\frac{7}{8}$	B $\frac{2}{3}$	C $\frac{5}{7}$
D $\frac{3}{7}$	E $\frac{5}{2}$	F $\frac{5}{6}$

9 Use factorization to simplify. Invert and factor to show what factors in this fraction division can be cancelled out

$$\frac{12}{1} \div \frac{40}{5}$$

A $\frac{2 \times 3 \times 11}{1 \times 1} \times \frac{5}{2 \times 2 \times 2 \times 5 \times 5}$
B $\frac{2 \times 2 \times 3}{1} \times \frac{5}{2 \times 2 \times 2 \times 5}$

10 Use factorization to simplify

$$\frac{9}{18} \div \frac{7}{21}$$

A $\frac{3}{7}$	B $\frac{2}{7}$	C $\frac{7}{3}$
D $\frac{5}{6}$	E $\frac{3}{5}$	F $\frac{3}{2}$

11 Use factorization to simplify

$$\frac{15}{7} \times \frac{35}{42} \times \frac{35}{25}$$

A $\frac{3}{5}$	B $\frac{2}{7}$	C $\frac{3}{4}$
D $\frac{5}{2}$	E $\frac{5}{6}$	F $\frac{2}{3}$

12 Choose the correct comparison operator

$$3^4 \cdot 5^3 \bigcirc 3^3 \cdot 5^4$$

<, >, or =?

A <	B >
C =	

13 Choose the correct comparison operator

$$7^6 \cdot 3^6 \cdot 5^1 \cdot 2^1 \bigcirc 7^6 \cdot 3^6 \cdot 5^2$$

<, >, or =?

A >	B =
C <	

14 Choose the correct comparison operator

$$3^9 \cdot 7^{10} \cdot 5^1 \bigcirc 3^9 \cdot 7^{10} \cdot 2^1$$

<, >, or =?

A =	B <
C >	

**Factoring, Multiplication, Division,
Fractions - Advanced****15** Factor 100 to find p, and d

$$100 = p^2 \cdot d^2$$

A $p=2, d=3$

B $p=5, d=7$

C $p=5, d=2$

D $p=5, d=11$

E $p=5, d=11$

16 Factor 3087 to find x, and p

$$3087 = x^3 \cdot p^2$$

A $x=3, p=5$

B $x=7, p=3$

C $x=3, p=5$

D $x=3, p=11$

E $x=3, p=5$

17 Choose the correct comparison operator

$$2^5 \cdot 3^1 \bigcirc 2^5 \cdot 5^1$$

<, >, or =?

A =

B <

C >

18 Factor 6655 to find m, and p

$$6655 = m^1 \cdot p^3$$

A $m=5, p=2$

B $m=11, p=7$

C $m=5, p=11$

D $m=5, p=7$

E $m=5, p=2$

19 Choose the correct comparison operator

$$2^8 \cdot 7^6 \cdot 5^1 \bigcirc 2^7 \cdot 7^6 \cdot 5^1 \cdot 3^1$$

<, >, or =?

A <

B =

C >

20 Factor 450 to find d, c, and r

$$450 = d^2 \cdot c^2 \cdot r^1$$

A $d=3, c=2, r=7$

B $d=3, c=2, r=11$

C $d=3, c=2, r=7$

D $d=5, c=3, r=2$

E $d=5, c=2, r=7$

21 Choose the correct comparison operator

$$2^9 \cdot 3^{10} \cdot 5^{10} \bigcirc 2^{11} \cdot 3^9 \cdot 5^9$$

<, >, or =?

A >

B <

C =

22 Factor 3430 to find x, p, and c

$$3430 = x^1 \cdot p^3 \cdot c^1$$

A $x=2, p=7, c=5$

B $x=2, p=5, c=13$

C $x=2, p=5, c=11$

D $x=7, p=5, c=13$

E $x=2, p=7, c=3$