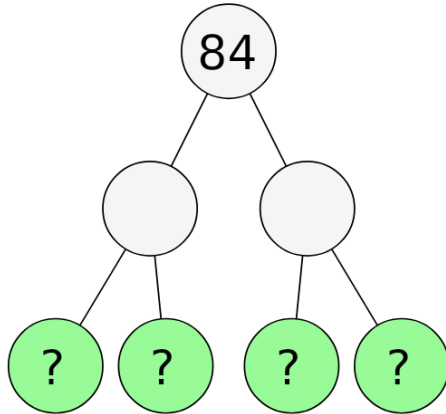


Factoring, Multiplication, Division, Fractions - Practice

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



A $2 \times 2 \times 3$
 $\times 7 \times 13$

B $2 \times 2 \times$
21

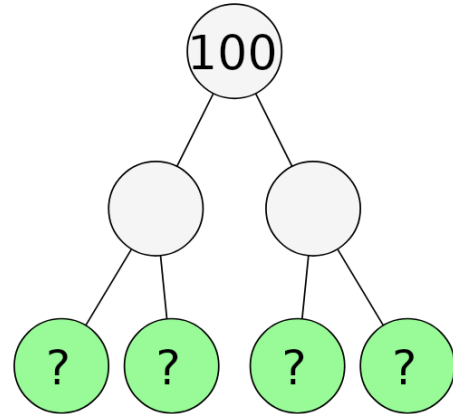
C $2 \times 2 \times$
 3×7

D $2 \times 2 \times 2$
 $\times 3 \times 7$

E $2 \times 2 \times 3$
 $\times 7 \times 7$

F $2 \times 2 \times$
7

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



A $2 \times 10 \times$
5

B $2 \times 2 \times$
5

C $2 \times 2 \times 2$
 $\times 5 \times 5$

D $2 \times 5 \times$
5

E $2 \times 2 \times 5$
 $\times 5 \times 5$

F $2 \times 2 \times$
 5×5

- 3** Use factorization to factor each number and show what factors in this fraction can be cancelled out

$$\frac{2 \times 25 \times 70}{35 \times 35 \times 10}$$

A
$$\frac{(2) \times (5 \times 5) \times (2 \times 5 \times 7)}{(5 \times 7) \times (5 \times 7) \times (2 \times 5)}$$

B
$$\frac{(2) \times (5 \times 5) \times (2 \times 5 \times 7)}{(7) \times (5 \times 7) \times (2)}$$

C
$$\frac{(2) \times (5 \times 5 \times 5) \times (5 \times 5 \times 7 \times 11)}{(5 \times 7) \times (5 \times 7) \times (2 \times 5)}$$

- 4** Use factorization to simplify this fraction

$$\frac{49 \times 4}{14 \times 6}$$

A $\frac{7}{8}$

B $\frac{7}{3}$

C $\frac{2}{3}$

D $\frac{2}{5}$

E $\frac{5}{3}$

F $\frac{3}{2}$

- 5** Use factorization to simplify this fraction

$$\frac{49 \times 3 \times 70}{30 \times 35 \times 7}$$

A $\frac{5}{2}$

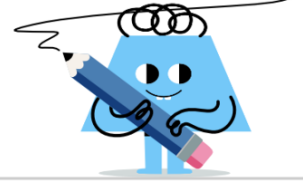
B $\frac{7}{2}$

C $\frac{5}{6}$

D $\frac{7}{5}$

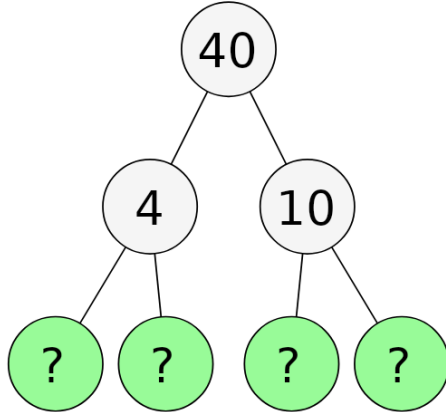
E $\frac{3}{5}$

F $\frac{2}{3}$



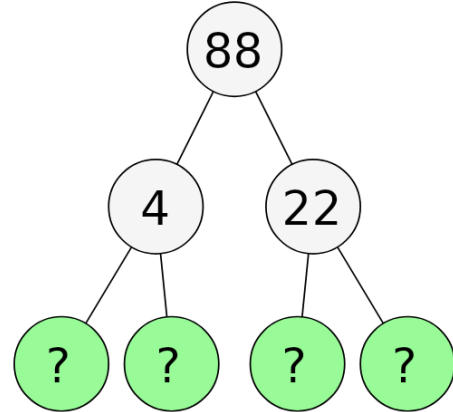
Factoring, Multiplication, Division, Fractions - Practice

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



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

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



- | | | |
|--------------------------|--|--|
| A $2 \times 2 \times 2$ | B $2 \times 2 \times 2 \times 7 \times 11$ | C $2 \times 2 \times 2 \times 2 \times 11$ |
| D $2 \times 4 \times 11$ | E $2 \times 2 \times 2 \times 11$ | F $2 \times 2 \times 2 \times 5 \times 11$ |

- 8** Show the prime factorization of this number

42

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

- 9** Show the prime factorization of this number

44

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

- 10** Use factorization to simplify

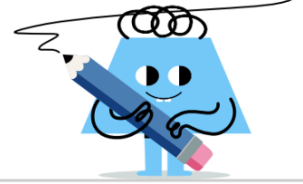
$$\frac{1}{2 \times 3} \times \frac{2 \times 3 \times 3 \times 5}{5 \times 5}$$

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

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

$$\frac{21}{6} \times \frac{4}{10}$$

- | | |
|--|--|
| A $\frac{3 \times 7}{2 \times 3} \times \frac{2 \times 2}{2 \times 5}$ | B $\frac{3 \times 3 \times 7}{2} \times \frac{2 \times 2}{2 \times 5}$ |
|--|--|



Factoring, Multiplication, Division, Fractions - Practice

12 Use factorization to simplify

$$\frac{40}{20} \times \frac{1}{7}$$

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

13 Use factorization to simplify

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

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

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

$$\frac{5}{25} \div \frac{6}{42}$$

A $\frac{5}{5 \times 5} \times \frac{2 \times 7}{11}$	B $\frac{5}{5 \times 5} \times \frac{2 \times 3 \times 7}{2 \times 3}$
--	---

15 Use factorization to simplify

$$\frac{3}{5} \div \frac{42}{30}$$

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

16 Use factorization to simplify

$$\frac{42}{15} \times \frac{35}{25} \times \frac{5}{14}$$

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

17 Choose the correct comparison operator

$$7^3 \cdot 3^4 \bigcirc 7^3 \cdot 3^3 \cdot 2^1$$

<, >, or =?

A >	B =
C <	

18 Choose the correct comparison operator

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

<, >, or =?

A =	B <
C >	

19 Factor 200 to find r, and y

$$200 = r^3 \cdot y^2$$

A r=2, y=7	B r=2, y=5
C r=5, y=3	D r=2, y=7
E r=2, y=7	

**Factoring, Multiplication, Division,
Fractions - Practice****20** Choose the correct comparison operator

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

<, >, or =?

A

<

B

>

C

=

21 Factor 1225 to find z, and c

$$1225 = z^2 \cdot c^2$$

A

z=5, c=7

B

z=5, c=11

C

z=5, c=2

D

z=7, c=3

E

z=7, c=2

22 Choose the correct comparison operator

$$5^4 \cdot 2^3 \cdot 3^1 \bigcirc 5^4 \cdot 2^3 \cdot 3^1$$

<, >, or =?

A

>

B

=

C

<

23 Factor 2662 to find z, and r

$$2662 = z^3 \cdot r^1$$

A

z=2, r=5

B

z=11, r=2

C

z=2, r=7

D

z=11, r=3

E

z=2, r=7

24 Choose the correct comparison operator

$$7^7 \cdot 5^8 \bigcirc 7^8 \cdot 5^7$$

<, >, or =?

A

<

B

>

C

=

25 Factor 150 to find p, m, and n

$$150 = p^2 \cdot m^1 \cdot n^1$$

A

p=5, m=2, n=3

B

p=5, m=3, n=11

C

p=2, m=3, n=13

D

p=5, m=2, n=11

E

p=2, m=3, n=7

26 Choose the correct comparison operator

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

<, >, or =?

A

<

B

=

C

>

27 Factor 504 to find z, x, and d

$$504 = z^3 \cdot x^1 \cdot d^2$$

A

z=7, x=3, d=11

B

z=7, x=3, d=5

C

z=2, x=7, d=5

D

z=2, x=7, d=3

E

z=2, x=3, d=11