



Learn a new puzzle

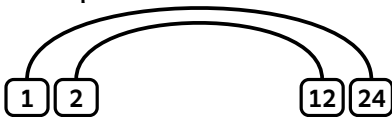
Factor Hunts

Factor pairs come in twos: $2 \times 12 = 24$. Stop when the pairs meet in the middle.

Trick: **Meet in the middle**

1

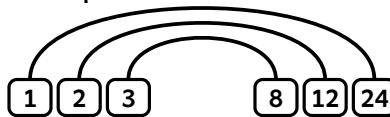
Factor pairs of 24



Start with 1×24 . Then try
2: $24 \div 2 = 12$.

2

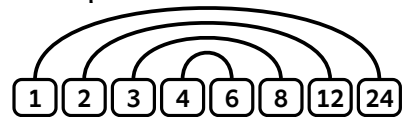
Factor pairs of 24



Try 3: $24 \div 3 = 8$.

3

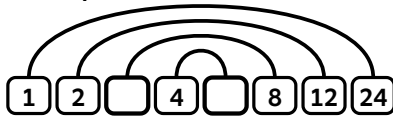
Factor pairs of 24



Try 4: $24 \div 4 = 6$. The pairs
meet in the middle, so
stop.

Try it

a Factor pairs of 24



b Factor pairs of 28



The answer is with
the other answers.

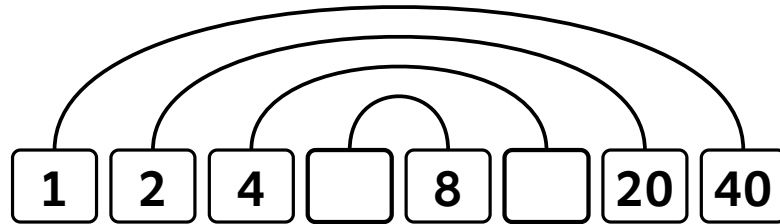
Talk about it: Ask: How do you know you found every pair?



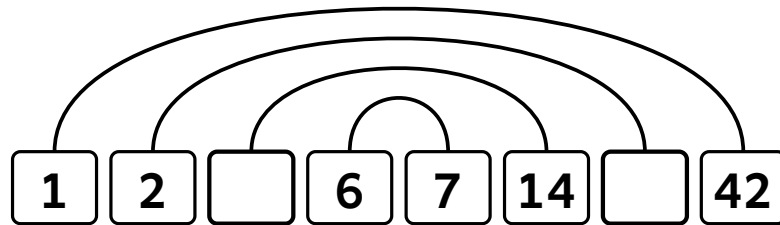
1 Factor Hunts Fill in the empty boxes. Numbers on an arc multiply to the number.



a Factor pairs of 40



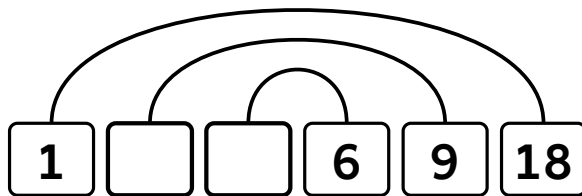
b Factor pairs of 42



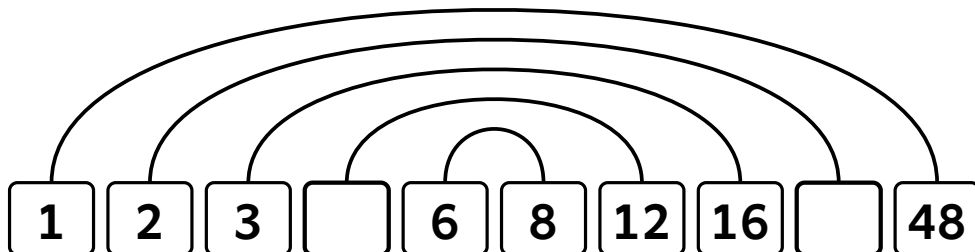
2 Factor Hunts Fill in the empty boxes. Numbers on an arc multiply to the number.



a Factor pairs of 18



b Factor pairs of 48

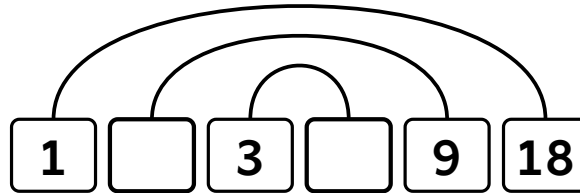




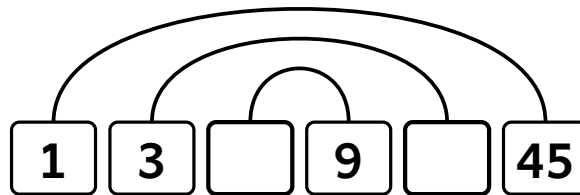
③ **Factor Hunts** Fill in the empty boxes. Numbers on an arc multiply to the number.



a **Factor pairs of 18**



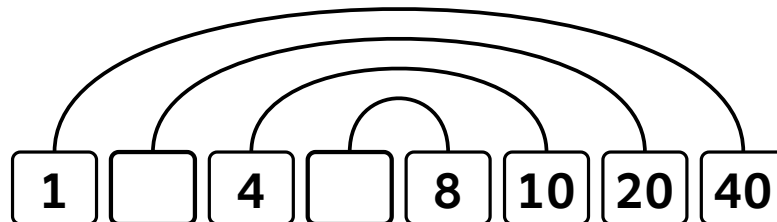
b **Factor pairs of 45**



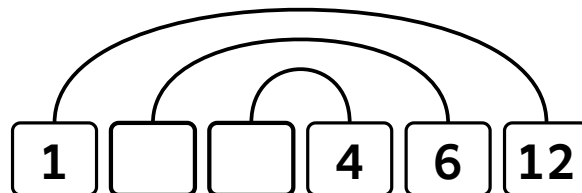
④ **Factor Hunts** Fill in the empty boxes. Numbers on an arc multiply to the number.



a **Factor pairs of 40**



b **Factor pairs of 12**





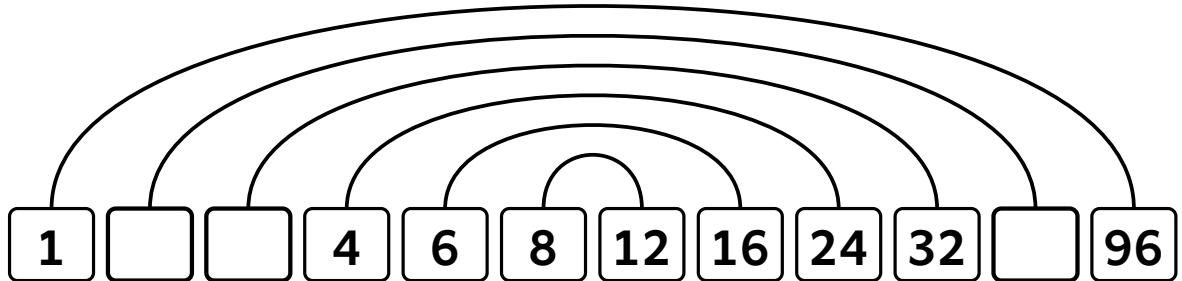
5

Factor Hunts

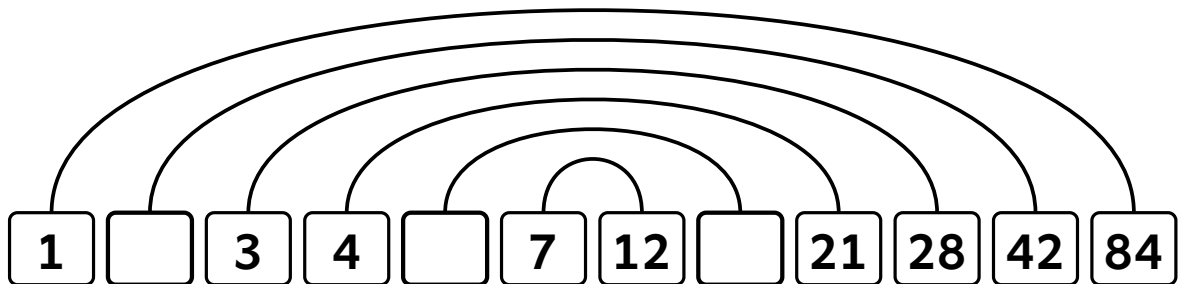
Fill in the empty boxes. Numbers on an arc multiply to the number.



a Factor pairs of 96



b Factor pairs of 84



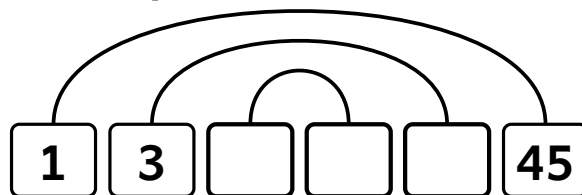
6

Factor Hunts

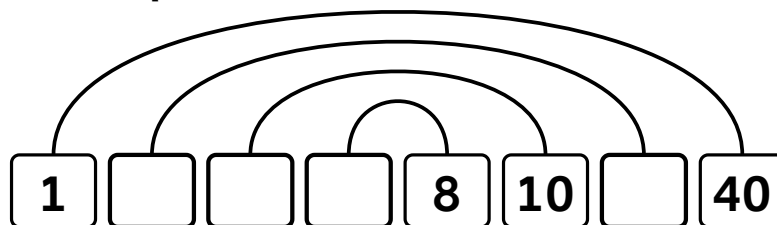
Fill in the empty boxes. Numbers on an arc multiply to the number.



a Factor pairs of 45

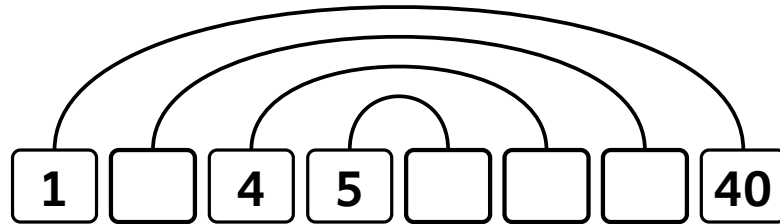
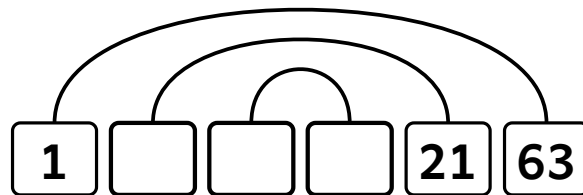


b Factor pairs of 40



**7****Factor Hunts**

Fill in the empty boxes. Numbers on an arc multiply to the number.

**a Factor pairs of 40****b Factor pairs of 63****8****Factor Hunts**

Each row shows every factor of a number, smallest first. Fill in the boxes.

**a**

1	?	4	5	10	20	25	?	?
---	---	---	---	----	----	----	---	---

b

1	?	5	7	10	?	?	70
---	---	---	---	----	---	---	----

c

1	2	?	?	?	14	28	56
---	---	---	---	---	----	----	----

9**Factor Hunts**

Each row shows every factor of a number, smallest first. Fill in the boxes.

**a**

1	?	?	13	?	52
---	---	---	----	---	----

b

1	?	?	?	16	32
---	---	---	---	----	----

c

1	?	4	8	11	?	44	?
---	---	---	---	----	---	----	---



10

Factor Hunts Prime or not? Read each question.



a Check the only prime number.

141	33	161	179
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b Look at every number from 55 to 66.
Which one has the most factor pairs?

It is



Answers

For grown-ups. Cut off or keep this page aside until the puzzles are done.

Learn • Factor Hunts

a Factor pairs of 24

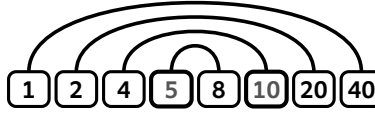


b Factor pairs of 28

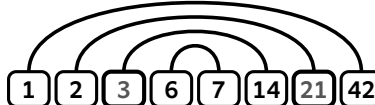


#1

a Factor pairs of 40



b Factor pairs of 42



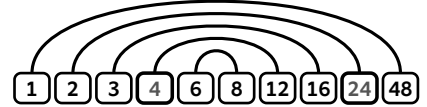
a: $40 \div 4 = 10$; $40 \div 8 = 5$. b: $42 \div 2 = 21$; $42 \div 14 = 3$.

#2

a Factor pairs of 18



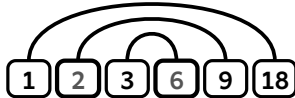
b Factor pairs of 48



a: $18 \div 9 = 2$; $18 \div 6 = 3$. b: $48 \div 2 = 24$; $48 \div 12 = 4$.

#3

a Factor pairs of 18



b Factor pairs of 45



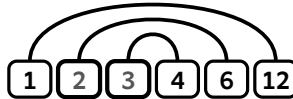
a: $18 \div 9 = 2$; $18 \div 3 = 6$. b: $45 \div 3 = 15$; $45 \div 9 = 5$.

#4

a Factor pairs of 40



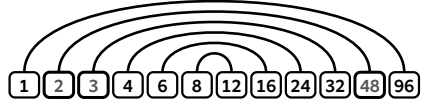
b Factor pairs of 12



a: $40 \div 20 = 2$; $40 \div 8 = 5$. b: $12 \div 6 = 2$; $12 \div 4 = 3$.

#5

a Factor pairs of 96



b Factor pairs of 84



a: $96 \div 32 = 3$; Try 2: $96 \div 2 = 48$. b: $84 \div 42 = 2$; 5 does not work. Try 6: $84 \div 6 = 14$.

#6

a Factor pairs of 45



b Factor pairs of 40



a: $45 \div 3 = 15$; 4 does not work. Try 5: $45 \div 5 = 9$. b: $40 \div 10 = 4$; $40 \div 8 = 5$; Try 2: $40 \div 2 = 20$.

#7

a Factor pairs of 40



b Factor pairs of 63



a: $40 \div 4 = 10$; $40 \div 5 = 8$; Try 2: $40 \div 2 = 20$. b: $63 \div 21 = 3$; 4, 5, 6 do not work. Try 7: $63 \div 7 = 9$.

#8

a 1 2 4 5 10 20 25 50 100

b 1 2 5 7 10 14 35 70

c 1 2 4 7 8 14 28 56

a: $4 \times 25 = 100$, so the number is 100; Try 2: $100 \div 2 = 50$. b: $70 \div 5 = 14$; Try 2: $70 \div 2 = 35$. c: $56 \div 14 = 4$; 5, 6 do not work. Try 7: $56 \div 7 = 8$.



Answers For grown-ups. Cut off or keep this page aside until the puzzles are done.

#9

a

1	2	4	13	26	52
---	---	---	----	----	----

b

1	2	4	8	16	32
---	---	---	---	----	----

c

1	2	4	8	11	22	44	88
---	---	---	---	----	----	----	----

a: $52 \div 13 = 4$; Try 2: $52 \div 2 = 26$. b: $32 \div 16 = 2$; 3 does not work. Try 4: $32 \div 4 = 8$. c: $8 \times 11 = 88$, so the number is 88; $88 \div 44 = 2$; $88 \div 8 = 11$.

#10

a Check the only prime number.

141	33	161	179
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b Look at every number from 55 to 66.
Which one has the most factor pairs?

It is

60

a: 179 is the only prime. The others split: $141 = 3 \times 47$, $33 = 3 \times 11$, $161 = 7 \times 23$. b: 60 has 6 factor pairs. No other number there has 6.