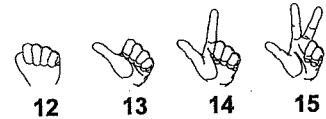


PA5-1: Counting

Jamie finds the **difference** between 15 and 12 by counting on her fingers. She says "12" with her fist closed, then counts to 15, raising one finger at a time:



When she says "15", she has raised 3 fingers. So the difference or "gap" between 12 and 15 is 3.

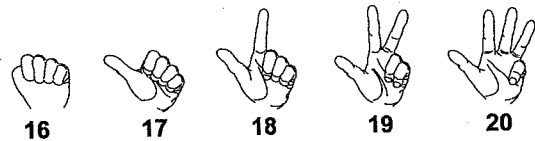
1. Count the gap between the numbers. Write your answer in the circle:

HINT: If you know your subtraction facts, you may be able to find the answer without counting.

- a) 2 7 b) 5 8 c) 3 9 d) 3 7 e) 2 8
- f) 11 17 g) 11 16 h) 22 28 i) 36 38 j) 31 40
- k) 32 37 l) 43 47 m) 49 52 n) 85 91 o) 67 72

What number is 4 more than 16? (Or: $16 + 4 = ?$)

Ravi finds the answer by counting on his fingers. He says 16 with his fist closed, then counts up from 16 until he has raised 4 fingers:



The number 20 is 4 more than 16.

2. Add the number in the circle to the number beside it. Write your answer in the blank:

- a) 5 8 b) 8 _____ c) 6 _____ d) 17 _____ e) 12 _____
- f) 25 _____ g) 34 _____ h) 62 _____ i) 83 _____ j) 91 _____

3. Fill in the missing numbers:

- a) _____ is 5 more than 6 b) _____ is 7 more than 26 c) _____ is 8 more than 17
- d) _____ is 5 more than 29 e) _____ is 4 more than 38 f) _____ is 9 more than 65

In an **increasing sequence**, each number is greater than the one before it.

Deborah wants to continue the number pattern:

6, 8, 10, 12, ?

She finds the **difference** between the first two numbers:



$\textcircled{2}$
6, 8, 10, 12, ?

She finds that the difference between the other numbers in the pattern is also 2, so the pattern was made by adding 2:

$\textcircled{2}$ $\textcircled{2}$ $\textcircled{2}$
6, 8, 10, 12, ?

To continue the pattern, Deborah adds 2 to the last number in the sequence.

So the final number in the pattern is 14:

$\textcircled{2}$ $\textcircled{2}$ $\textcircled{2}$ $\textcircled{2}$
6, 8, 10, 12, 14

1. Extend the following patterns by first finding the gap between the numbers.

a) 1, 4, 7, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

b) 1, 5, 9, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

c) 3, 8, 13, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

d) 3, 6, 9, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

e) 1, 6, 11, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

f) 4, 10, 16, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

g) 2, 12, 22, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

h) 7, 13, 19, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

i) 31, 34, 37, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

j) 82, 88, 94, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

k) 2, 13, 24, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

l) 8, 17, 26, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

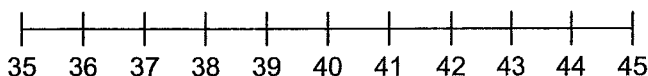
m) 5, 11, 17, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

n) 0, 4, 8, $\textcircled{\quad}$, $\textcircled{\quad}$, $\textcircled{\quad}$

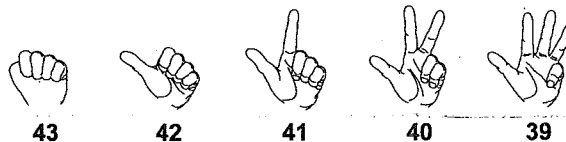
What number must you subtract from 43 to get 39?

$$43 - ? = 39$$

Jess finds the answer by counting backwards on her fingers. She uses the number line to help:



When Jess says 39, she has raised four fingers, so 4 subtracted from 43 gives 39: $43 - 4 = 39$



1. What number must you subtract from the greater number to get the lesser number?

a) $43 \begin{matrix} \circ \\ -3 \end{matrix} 40$

b) $44 \begin{matrix} \circ \end{matrix} 39$

c) $41 \begin{matrix} \circ \end{matrix} 36$

d) $42 \begin{matrix} \circ \end{matrix} 35$

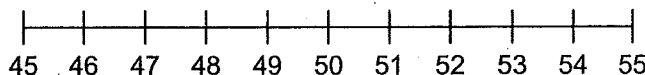
e) $44 \begin{matrix} \circ \end{matrix} 37$

f) $39 \begin{matrix} \circ \end{matrix} 36$

g) $42 \begin{matrix} \circ \end{matrix} 37$

h) $45 \begin{matrix} \circ \end{matrix} 39$

2. Find the gap between the numbers by counting backwards on your fingers.



a) $52 \begin{matrix} \circ \\ -4 \end{matrix} 48$

b) $51 \begin{matrix} \circ \end{matrix} 49$

c) $52 \begin{matrix} \circ \end{matrix} 47$

d) $54 \begin{matrix} \circ \end{matrix} 47$

e) $51 \begin{matrix} \circ \end{matrix} 47$

f) $50 \begin{matrix} \circ \end{matrix} 46$

g) $52 \begin{matrix} \circ \end{matrix} 45$

h) $53 \begin{matrix} \circ \end{matrix} 45$

3. Find the gap between the numbers by counting backwards on your fingers (or by using your subtraction facts):

a) $87 \begin{matrix} \circ \end{matrix} 82$

b) $68 \begin{matrix} \circ \end{matrix} 59$

c) $40 \begin{matrix} \circ \end{matrix} 38$

d) $90 \begin{matrix} \circ \end{matrix} 88$

e) $51 \begin{matrix} \circ \end{matrix} 46$

f) $77 \begin{matrix} \circ \end{matrix} 73$

g) $55 \begin{matrix} \circ \end{matrix} 47$

h) $22 \begin{matrix} \circ \end{matrix} 16$

i) $78 \begin{matrix} \circ \end{matrix} 69$

j) $121 \begin{matrix} \circ \end{matrix} 116$

k) $102 \begin{matrix} \circ \end{matrix} 96$

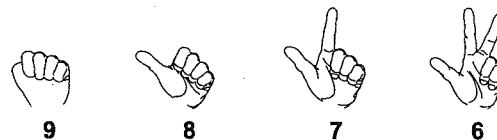
l) $49 \begin{matrix} \circ \end{matrix} 39$

PA5-4: Decreasing Sequences

In a **decreasing sequence**, each number is less than the one before it.

What number is 3 less than 9? (Or: $9 - 3 = ?$)

Jenna finds the answer by counting on her fingers. She says 9 with her fist closed and counts backwards until she has raised 3 fingers:



The number 6 is 3 less than 9: $9 - 3 = 6$

1. Follow the directions to the circle from the number given. Write your answer in the blank:

- a) 7 $\text{\textcircled{-3}}$ _____ b) 13 $\text{\textcircled{-3}}$ _____ c) 9 $\text{\textcircled{-4}}$ _____ d) 17 $\text{\textcircled{-1}}$ _____
 e) 16 $\text{\textcircled{-5}}$ _____ f) 19 $\text{\textcircled{-4}}$ _____ g) 25 $\text{\textcircled{-1}}$ _____ h) 29 $\text{\textcircled{-2}}$ _____
 i) 38 $\text{\textcircled{-4}}$ _____ j) 45 $\text{\textcircled{-6}}$ _____ k) 63 $\text{\textcircled{-8}}$ _____ l) 72 $\text{\textcircled{-4}}$ _____

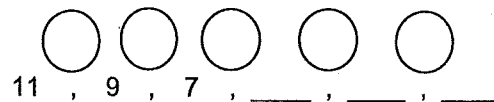
2. Fill in the missing numbers:

- a) _____ is 5 less than 17 b) _____ is 3 less than 19 c) _____ is 2 less than 18
 d) _____ is 6 less than 26 e) _____ is 8 less than 20 f) _____ is 4 less than 29
 g) _____ is 7 less than 35 h) _____ is 9 less than 42 i) _____ is 8 less than 90

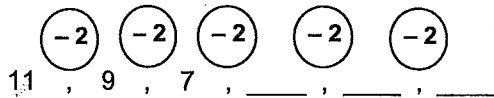
3. Extend the following decreasing patterns by first finding the gap between the numbers.

- a) $\text{\textcircled{13}}$, $\text{\textcircled{11}}$, $\text{\textcircled{9}}$, _____ , _____ , _____
 b) $\text{\textcircled{33}}$, $\text{\textcircled{28}}$, $\text{\textcircled{23}}$, _____ , _____ , _____
 c) $\text{\textcircled{64}}$, $\text{\textcircled{61}}$, $\text{\textcircled{58}}$, _____ , _____ , _____
 d) $\text{\textcircled{55}}$, $\text{\textcircled{46}}$, $\text{\textcircled{37}}$, _____ , _____ , _____
 e) $\text{\textcircled{110}}$, $\text{\textcircled{90}}$, $\text{\textcircled{70}}$, _____ , _____ , _____

Example:



Step 1:



Step 2:

