

CSS

CSS FUNDAMENTALS

LAYOUT

Flexbox

Basis / Grow / Shrink



IN A ROCKET

Learn front-end development at rocket speed.

FLEX-BASIS



FLEX-GROW



FLEX-SHRINK



FLEX-BASIS



FLEX-GROW

FLEX-SHRINK

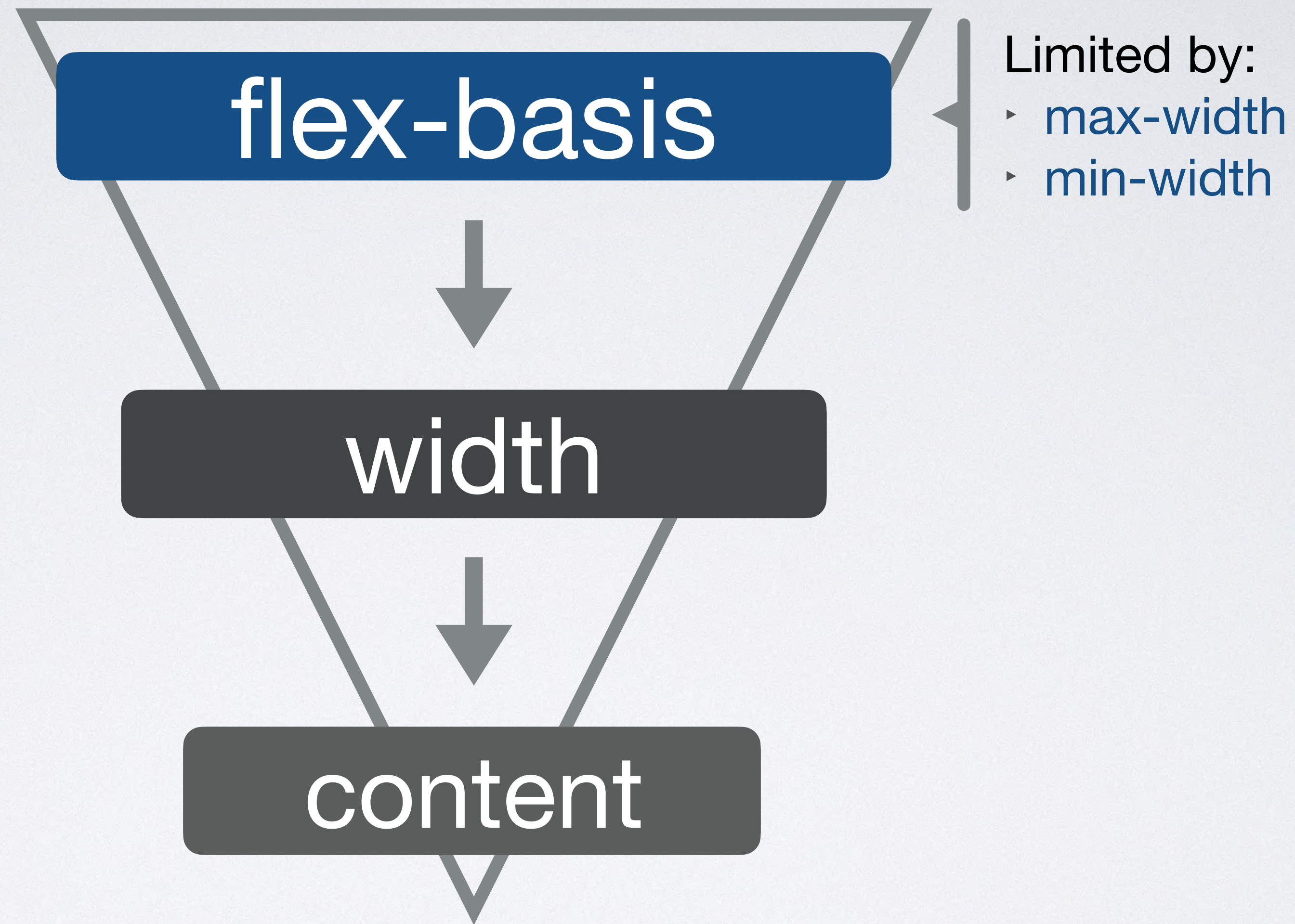
flex-basis

auto DEFAULT

content

width

FLEX-BASIS: PRIORITY IN FLEXBOX



FLEX-BASIS

HTML

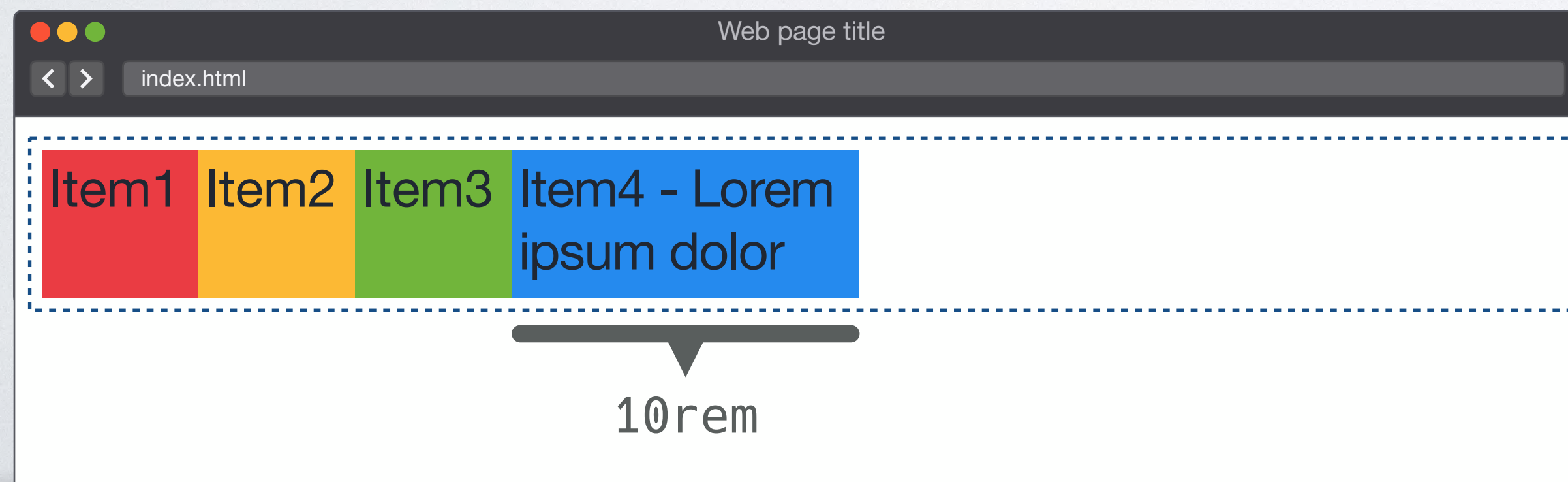
```
<body>
<div class="container">
  <div>Item1</div>
  <div>Item2</div>
  <div>Item3</div>
  <div class="i4">Item4</div>
</div>
</body>
```

CSS

```
.container {display: flex;}

.i4 { flex-basis: 10rem; }
```

Browser



FLEX-BASIS

FLEX-GROW

FLEX-SHRINK

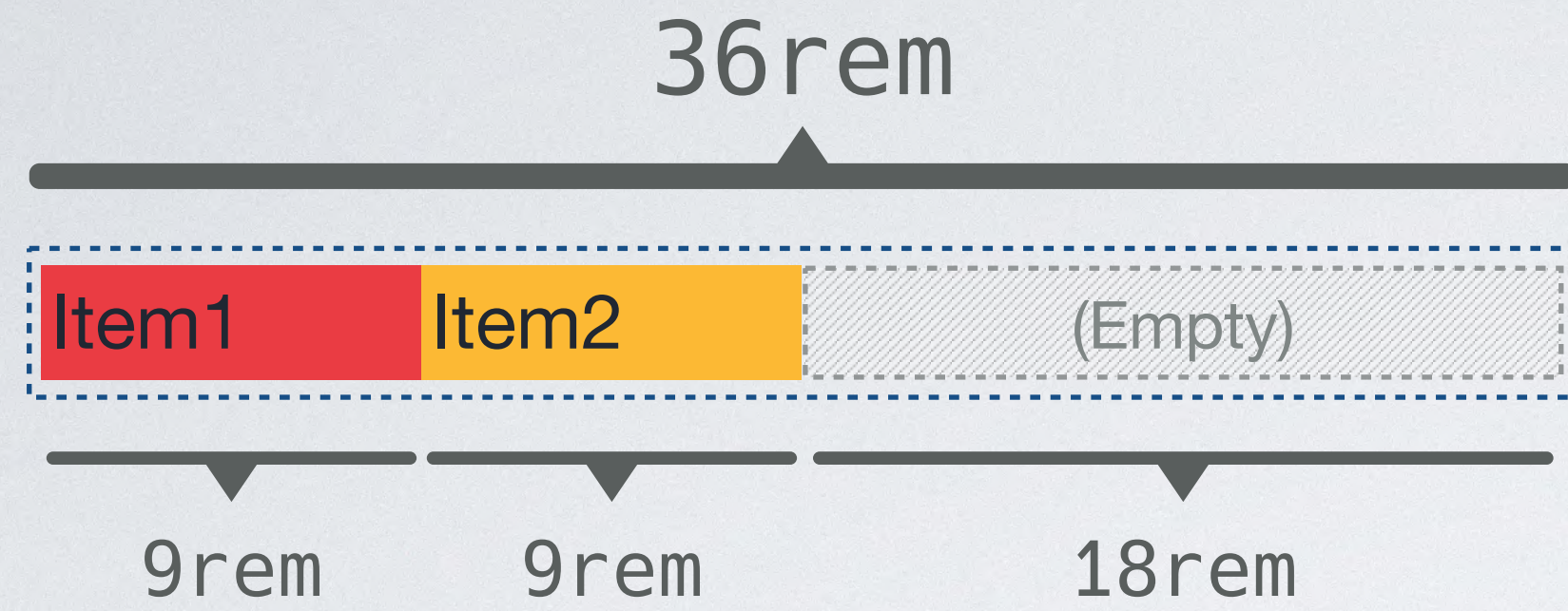
flex-grow

number (default: 0)

Not negative

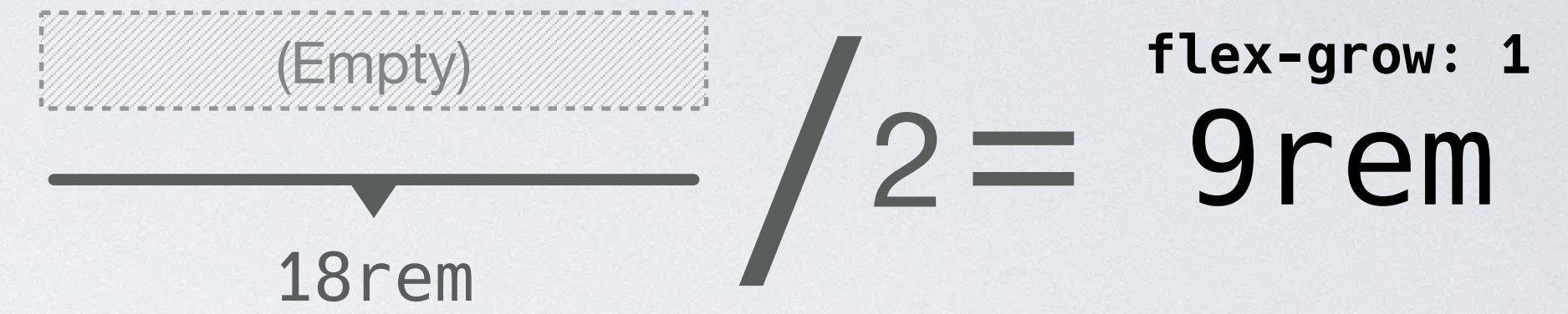
1

```
.i1 {flex-basis: 9rem; flex-grow: 0 /* Default*/}  
.i2 {flex-basis: 9rem; flex-grow: 0 /* Default*/}
```



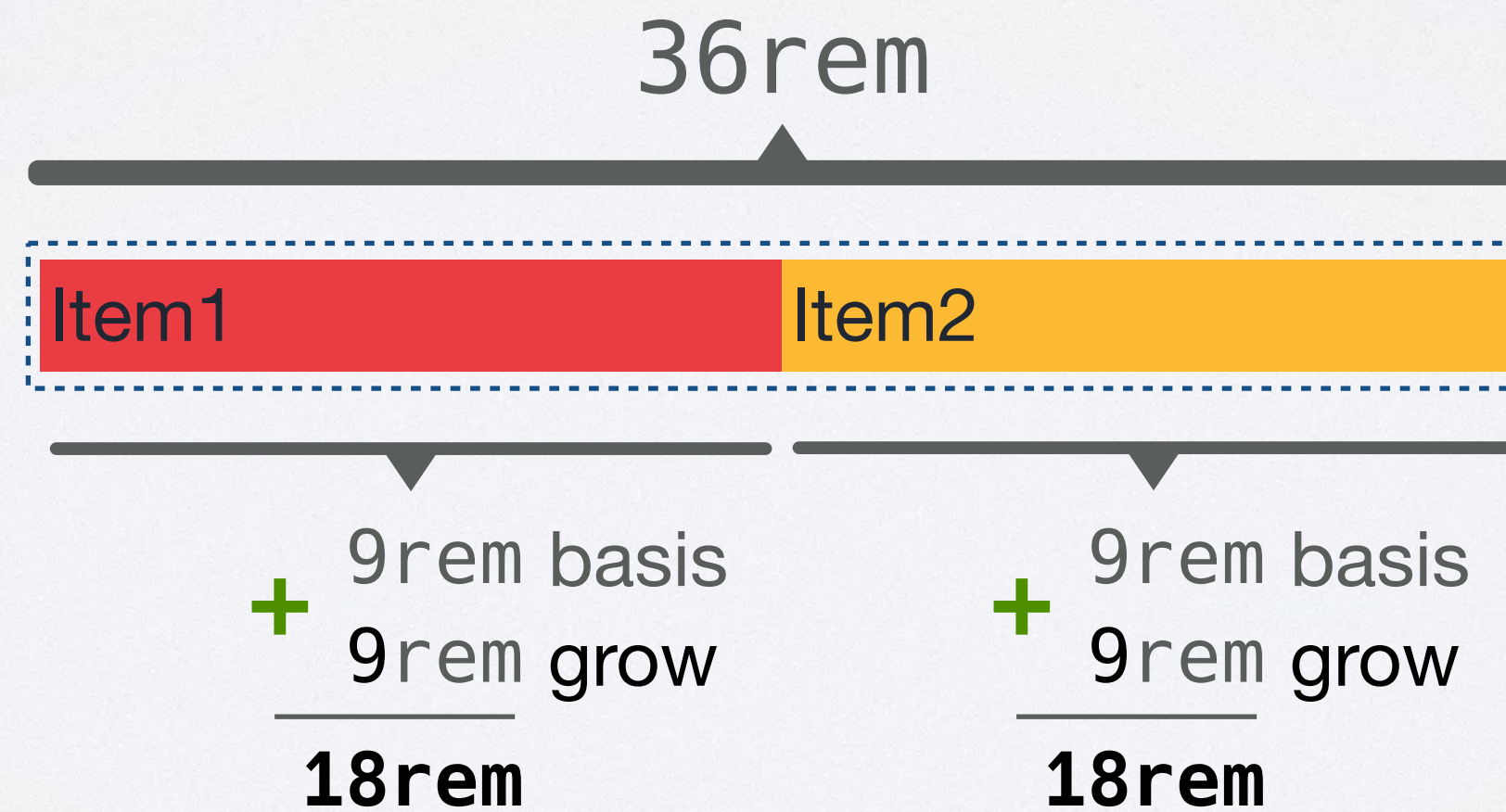
2

```
.i1 {flex-basis: 9rem; flex-grow: 1}  
.i2 {flex-basis: 9rem; flex-grow: 1} ▶ 2
```



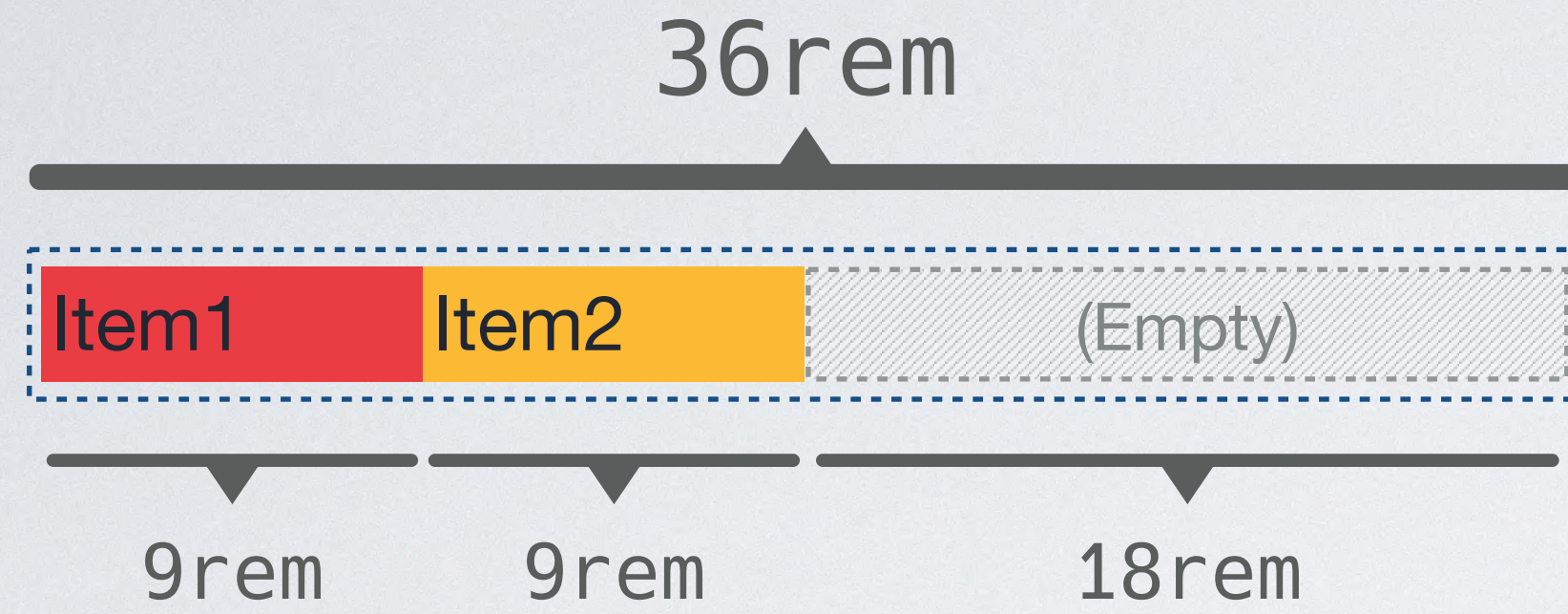
3

```
.i1 {flex-basis: 9rem; flex-grow: 1}  
.i2 {flex-basis: 9rem; flex-grow: 1}
```



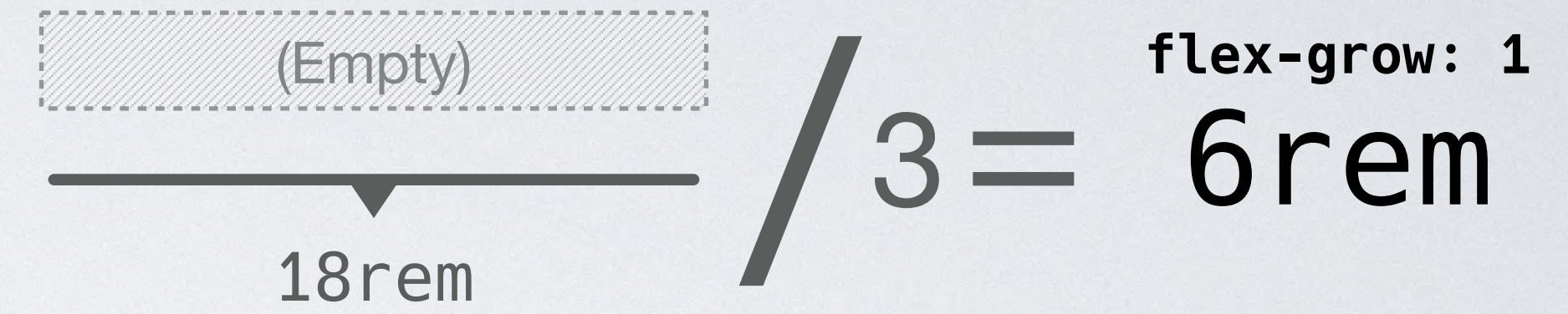
1

```
.i1 {flex-basis: 9rem; flex-grow: 0 /* Default*/}  
.i2 {flex-basis: 9rem; flex-grow: 0 /* Default*/}
```



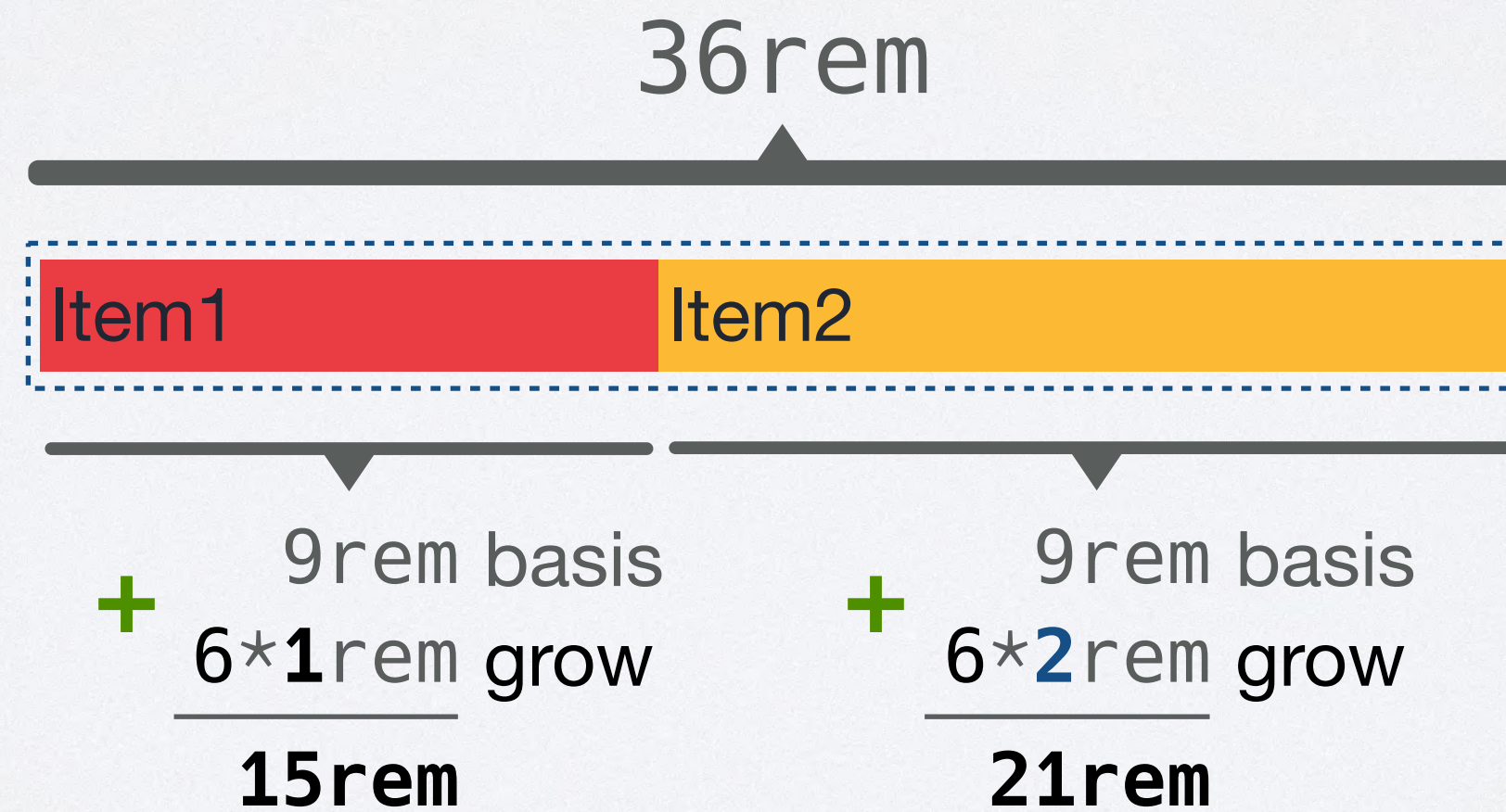
2

```
.i1 {flex-basis: 9rem; flex-grow: 1}  
.i2 {flex-basis: 9rem; flex-grow: 2} ▶ 3
```



3

```
.i1 {flex-basis: 9rem; flex-grow: 1}  
.i2 {flex-basis: 9rem; flex-grow: 2}
```



FLEX-BASIS

FLEX-GROW

FLEX-SHRINK

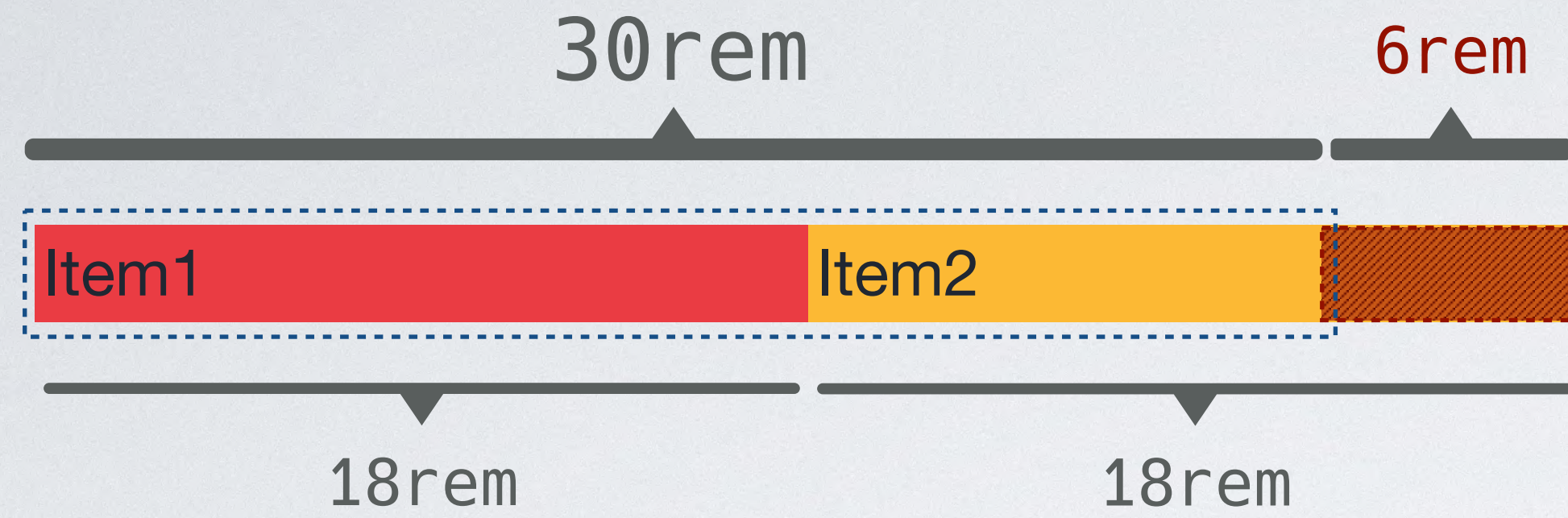
flex-shrink

number (default: 1)

Not negative

1

```
.i1 {flex-basis: 18rem; flex-shrink: 0;}  
.i2 {flex-basis: 18rem; flex-shrink: 0;}
```



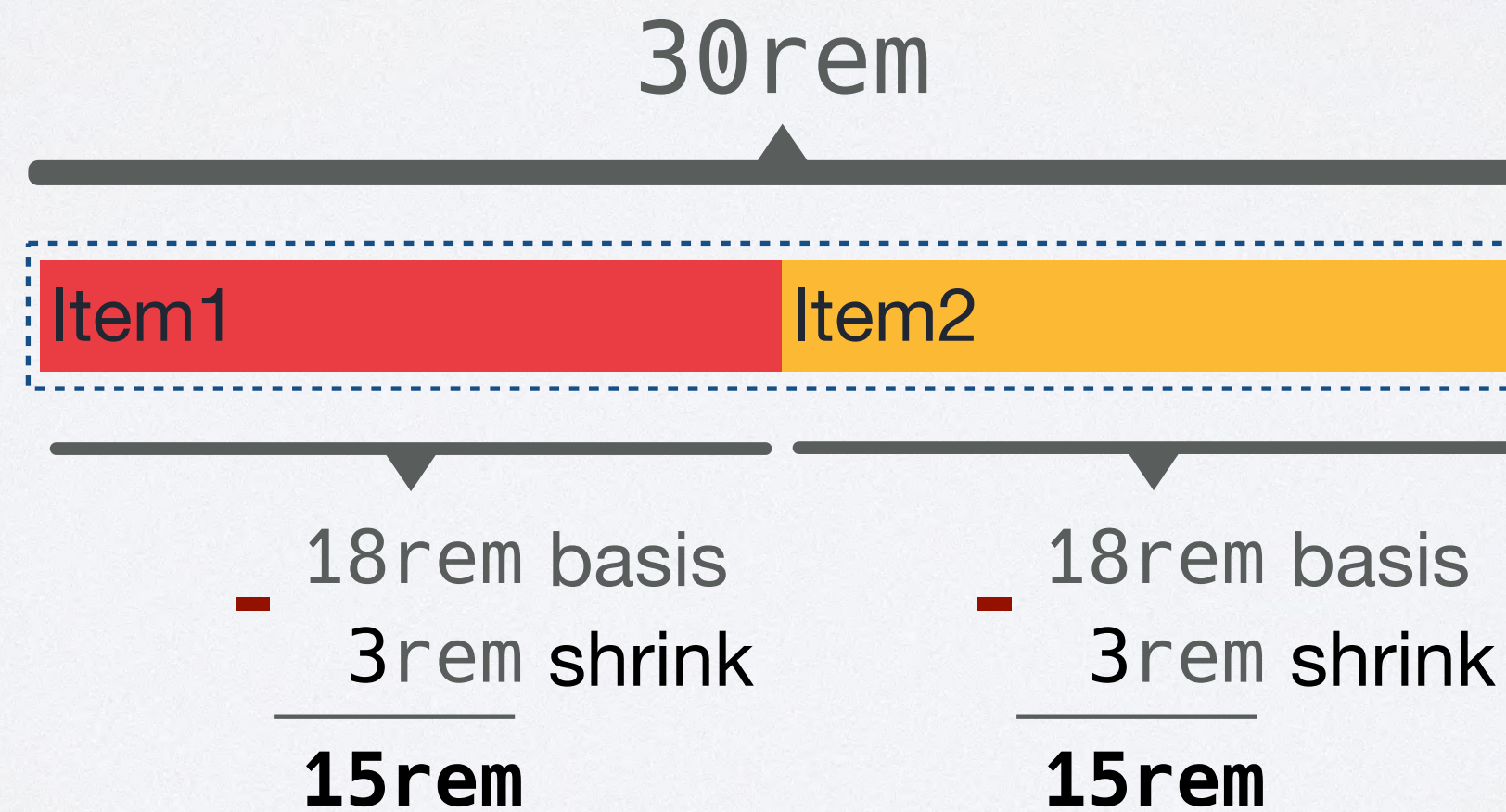
2

```
.i1 {flex-basis: 18rem; flex-shrink: 1 /*Default*/}  
.i2 {flex-basis: 18rem; flex-shrink: 1 /*Default*/}
```

Diagram 2 shows the calculation for the shrinkage of the items. A red hatched box represents the 6rem overflow. The calculation is shown as $6\text{rem} / 2 = 3\text{rem}$, where the 2 represents the number of items. The result is labeled flex-shrink: 1, and the final width of each item is 3rem.

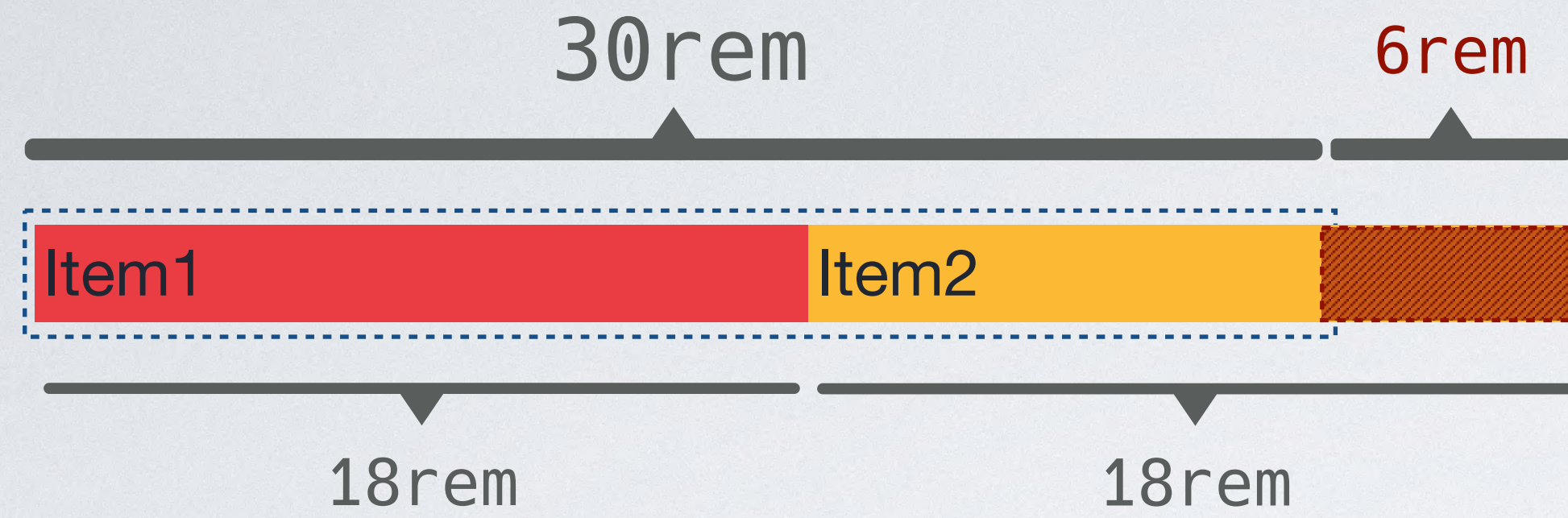
3

```
.i1 {flex-basis: 18rem; flex-shrink: 1;}  
.i2 {flex-basis: 18rem; flex-shrink: 1;}
```



1

```
.i1 {flex-basis: 18rem; flex-shrink: 0;}  
.i2 {flex-basis: 18rem; flex-shrink: 0;}
```



2

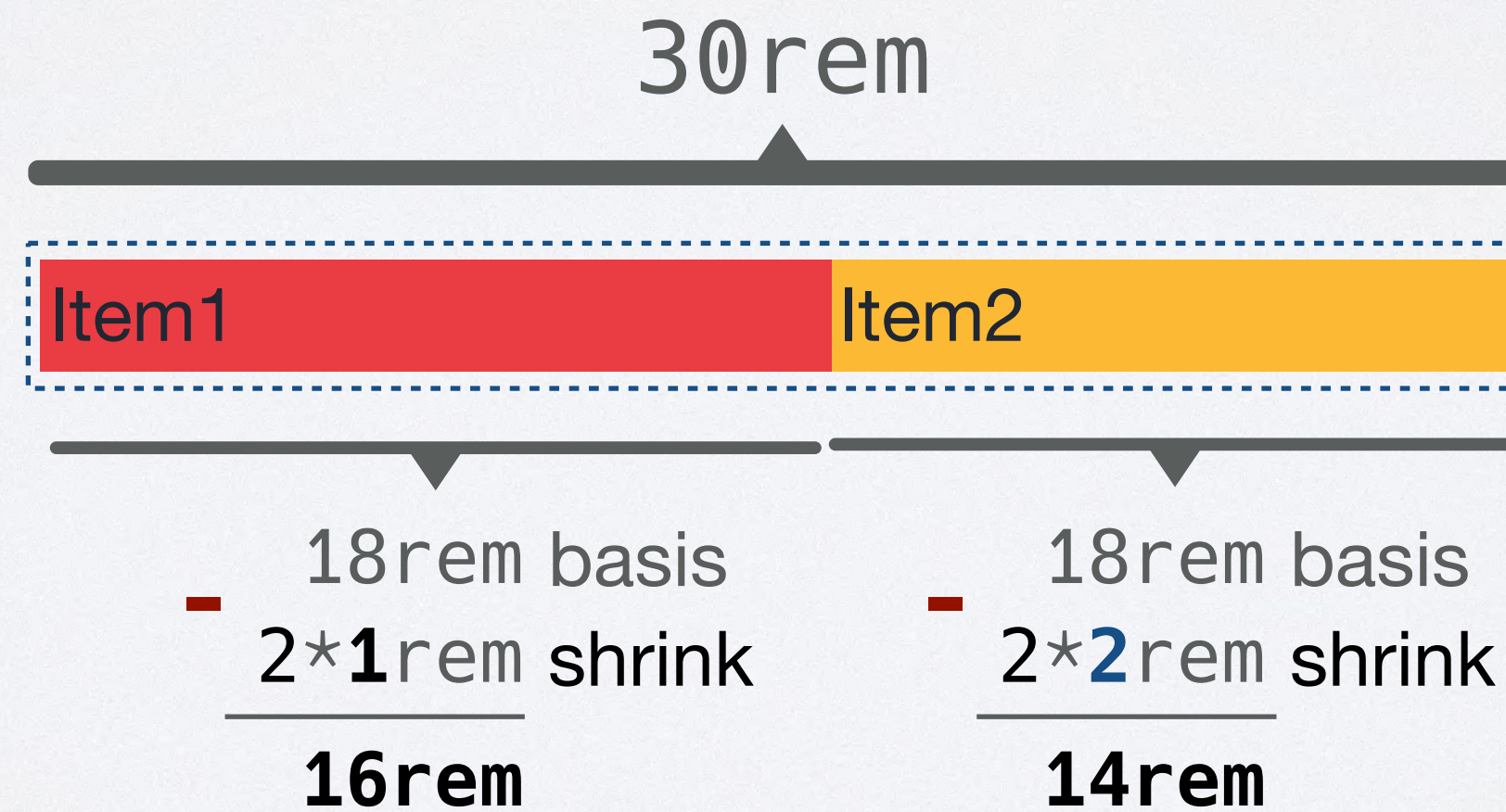
```
.i1 {flex-basis: 18rem; flex-shrink: 1 /*Default*/}  
.i2 {flex-basis: 18rem; flex-shrink: 2 /*Default*/} ▶ 3
```

Diagram 2 shows the calculation for the gap. A 6rem gap is divided by 3 (1 + 2) to get 2rem. This is labeled as flex-shrink: 1.

$$\frac{6\text{rem}}{3} = 2\text{rem} \quad \text{flex-shrink: 1}$$

3

```
.i1 {flex-basis: 18rem; flex-shrink: 1;}  
.i2 {flex-basis: 18rem; flex-shrink: 2;}
```



FLEX-BASIS

+

FLEX-GROW

+

FLEX-SHRINK



FLEX

flex

flex-grow flex-shrink flex-basis

none

W3C: “Authors are encouraged to control flexibility using the `flex` shorthand rather than with `flex-basis`, `flex-grow` and `flex-shrink` directly.”

flex:

1

1

20%

=

flex-grow: 1

flex-shrink: 1

flex-basis: 20%

flex:

none

=

flex-grow: 0

flex-shrink: 0

flex-basis: auto

flex:

auto

=

flex-grow: 1

flex-shrink: 1

flex-basis: auto

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