

Task 1

Fill in each with the number that makes each statement true.

$$\sqrt{1} = \square$$

$$\sqrt{\square} = 7$$

$$\sqrt{4} = \square$$

$$\sqrt{\square} = 8$$

$$\sqrt{9} = \square$$

$$\sqrt{\square} = 9$$

$$\sqrt{16} = \square$$

$$\sqrt{\square} = 10$$

$$\sqrt{25} = \square$$

$$\sqrt{\square} = 11$$

$$\sqrt{36} = \square$$

$$\sqrt{\square} = 12$$

Note: The numbers under each radical $\sqrt{\quad}$ are said to be *perfect squares*.

Task 2

Given the following:

$\sqrt{8}$	⋮
$= 2\sqrt{2}$	≈
$\sqrt{18}$	⋮
$= 3\sqrt{2}$	≈
$\sqrt{32}$	⋮
$= 4\sqrt{2}$	≈
$\sqrt{50}$	⋮
$= 5\sqrt{2}$	≈

What would the next four lines of this pattern look like? Write them fully.

Task 3

Given the following:

$\sqrt{12}$	⋮
$= 2\sqrt{3}$	≈
$\sqrt{27}$	⋮
$= 3\sqrt{3}$	≈
$\sqrt{48}$	⋮
$= 4\sqrt{3}$	≈
$\sqrt{75}$	⋮
$= 5\sqrt{3}$	≈

What would the next four lines of this pattern look like? Write them fully.

Task 4

Given the following:

$\sqrt{20}$	⋮
$= 2\sqrt{5}$	≈
$\sqrt{45}$	⋮
$= 3\sqrt{5}$	≈
$\sqrt{80}$	⋮
$= 4\sqrt{5}$	≈
$\sqrt{125}$	⋮
$= 5\sqrt{5}$	≈

What would the next four lines of this pattern look like? Write them fully.

Task 5

For the following exercises, fill in each \square to make each statement true.

$$\sqrt{\square} = 2\sqrt{6}$$

$$\sqrt{\square} = 3\sqrt{6}$$

$$\sqrt{\square} = 4\sqrt{6}$$

$$\sqrt{\square} = 5\sqrt{6}$$

$$\sqrt{\square} = 6\sqrt{6}$$

Task 6

For the following exercises, fill in each \square to make each statement true.

$$\sqrt{\square} = 4\sqrt{7}$$

$$\sqrt{\square} = 3\sqrt{7}$$

$$\sqrt{\square} = 3\sqrt{10}$$

$$\sqrt{\square} = 3\sqrt{10}$$

$$\sqrt{\square} = 2\sqrt{10}$$

$$\sqrt{\square} = 2\sqrt{13}$$

Task 7

For the following exercises, fill in each \square to make each statement true.

$$\sqrt{\square} = 2\sqrt{7}$$

$$\sqrt{\square} = 3\sqrt{10}$$

$$\sqrt{\square} = 2\sqrt{11}$$

$$\sqrt{\square} = 8\sqrt{5}$$

$$\sqrt{\square} = 3\sqrt{13}$$

Task 8

As a group, [watch this 1:05 silent video](#) very carefully. In this video, we write $\sqrt{360}$ in simple radical form in two different ways.

Write each expression here in simple radical form.

$$\sqrt{40}$$

$$\sqrt{45}$$

$$\sqrt{80}$$

$$\sqrt{75}$$

Task 9

Write each expression here in simple radical form.

$$\sqrt{180}$$

$$\sqrt{300}$$

$$\sqrt{224}$$

$$\sqrt{324}$$

Task 10

In tasks 8-9, you were writing expressions in *simple radical form*.

- a) Write the following expressions on your vertical surface. Then circle all the ones that are written in simple radical form.

$$\sqrt{31}$$

$$\sqrt{8}$$

$$3\sqrt{8}$$

$$\sqrt{2}$$

$$\sqrt{99}$$

$$3\sqrt{11}$$

- a) Using the term ***perfect square*** somewhere in your explanation, what does it mean for an expression to be written in simple radical form?

- b) How can you tell if an expression is written in simple radical form?