



Locating irrational numbers

GRADE 8 MATH

Name _____

Date _____

Show the perfect squares you used for every bracket.

WORKED EXAMPLE

$25 < 30 < 36$, so $5 < \sqrt{30} < 6$. To compare, square both sides.

1. List the perfect squares from 1 to 100.

FLUENCY

Show your thinking

Answer

2. Bracket $\sqrt{12}$ and $\sqrt{40}$ between consecutive whole numbers.

FLUENCY

Show your thinking

Answer

3. Which is bigger, $\sqrt{20}$ or 4.5? Show your working.

APPLICATION

Show your thinking

Answer

4. Is $\sqrt{30}$ nearer 5 or nearer 6? Justify it without a calculator.

APPLICATION

Show your thinking

Answer

5. Place $\sqrt{2}$, π and $\sqrt{10}$ in order, smallest first.

APPLICATION

Show your thinking

Answer

6. Explain why halving a number does not give its square root.

REASONING

Show your thinking

Answer

7. $\sqrt{n}$ lies between 6 and 7. What whole numbers could n be?

REASONING

Show your thinking

Answer

8. Between which two whole numbers does $\sqrt{150}$ lie?

APPLICATION

Show your thinking

Answer

9. Which is bigger, π or $\sqrt{10}$? Decide by squaring, then check the decimals.

REASONING

Show your thinking

Answer