Estimating Square Roots

Name: _____ Date: _____

Remember: Perfect squares are: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144...

To estimate a square root, find the two perfect squares it falls between.
Example: √20 is between √16 and √25, so √20 is between 4 and 5.

Part A: Between Which Two Whole Numbers?

Write the two consecutive whole numbers that each square root falls between.

1. √8 _____ < √8 < _____
2. √30 _____ < √30 < _____
3. √50 _____ < √50 < _____
4. √75 _____ < √75 < _____
5. √110 _____ < √110 < _____
6. √95 _____ < √95 < _____

Part B: Closer To Which Whole Number?

Circle whether each square root is closer to the smaller or larger whole number.

7. √12 Closer to: 3 or 4
8. √40 Closer to: 6 or 7
9. √60 Closer to: 7 or 8
10. √90 Closer to: 9 or 10

Part C: Order the Square Roots

Arrange these numbers from smallest to largest.

11. √15, 4, √10, 5

    _____ < _____ < _____ < _____

12. √80, 9, √70, 10

    _____ < _____ < _____ < _____

Part D: Challenge

13. A square has an area of 45 cm². Estimate the length of one side to the nearest whole number.

    Side length ≈ _____ cm

14. Which is larger: $\sqrt{50}$ or 7? Explain your reasoning.

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