Estimating Non-Perfect Square Roots

Name: _____ Date: _____

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

When a number is NOT a perfect square, its square root falls between two whole numbers.

Example: √20 is between 4 and 5, because $4^2 = 16$ and $5^2 = 25$

Part A: Between Which Two Whole Numbers?

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

1. √10 is between _____ and _____
2. √30 is between _____ and _____
3. √50 is between _____ and _____
4. √75 is between _____ and _____
5. √92 is between _____ and _____
6. √40 is between _____ and _____

Part B: Closer Estimates

Which whole number is each square root closest to? Circle your answer.

7. √12 is closest to: 3 or 4
8. √28 is closest to: 5 or 6
9. √60 is closest to: 7 or 8
10. √85 is closest to: 9 or 10

Part C: Challenge Questions

11. If √n is between 6 and 7, what are the smallest and largest whole number values n could be?
    Smallest: _____ Largest: _____
12. Estimate √45 to one decimal place by testing values. Show your working:
    √45 ≈ _____