Pizza Calculator – Example Approach

Simple Example:

14” pizza that costs $18?

area of a circle = $\pi r^2$

area of pizza = 3.14 * 7 * 7
~ = 154 sq_in

price per sq_in = $18 / 154
= $0.117 / sq_in

Pseudocode Algorithm:

- get area of pizza given diameter
- divide cost by area
- RETURN this value
- parameters?
  - cost
  - diameter

Function List:

pizza_compare(diameter, cost)

get_area(diameter) ??
  ➔ potentially a good auxiliary function

main() ➔ for implementing multiple comparisons

Code:

```python
# Pizza calculator example code
import math
global doctest

def pizza_compare(diameter, cost):
    """
    Calculates and returns the cost per square inch of pizza for a pizza of given diameter and cost.
    """
    (int, num) -> float

    r = diameter / 2
    area = math.pi * r**2
    cost_per_inch = cost / area
    cost_per_inch = round(cost_per_inch, 3)
    return cost_per_inch

Examples:
>>> pizza_compare(14, 18)
0.117
>>> pizza_compare(14, 20.25)
0.132

def main():
    """
    Compare multiple pizza values.
    """
    print("Pizza 1: ", pizza_compare(14, 18))
    print("Pizza 2: ", pizza_compare(14, 20.25))
    print("Pizza 3: ", pizza_compare(20, 27))

main() # <-- to actually run our function!!
```