

Math-Grade 6- Pennsylvania Edition  
2008 McDougal Littell

Unit: Warm-Up Problems

Standards:

Anchors: M6.A.1, M6.A.3, M6.C.1

Estimated Time: Ongoing throughout the year

Sub-Anchors	Eligible Content	Skills	Strategies/Activities	Resources	Core Terminology	Assessments
M6.A.1.2 Compare quantities and/or magnitudes of numbers.	M6.A.1.2.1 Compare and/or order whole numbers, mixed numbers, fractions and/or decimals (do not mix fractions and decimals-decimals through thousandths).			Compare and/or order whole numbers.		
M6.A.3.2 Solve problems with and without the use of a calculator.	M6.A.3.2.1 Solve problems involving operations (+, -, ×, /) with whole numbers, decimals (through thousandths) and fractions (with denominators 10, 100, 1000).			Solve problems involving +, -, ×, / with whole numbers, straight computation or word problems.		

6 is perfect because its positive factors are 1, 2, 3, 6, and  $1 + 2 + 3 = 6$ . The next perfect number after 6 is between 20 and 30. What is it?

**Answer:** 28

Let's look at the factors of the numbers from 20 to 30, excluding the number itself as a factor:

20: factors 1, 2, 4, 5, 10; sum of factors  $1 + 2 + 4 + 5 + 10 = 22$

21: factors 1, 3, 7; sum = 11

22: factors 1, 2, 11; sum = 14

23: factors 1, 23; sum = 24

24: factors 1, 2, 3, 4, 6, 8, 12; sum = 36

25: factors 1, 5; sum = 6

26: factors 1, 2, 13; sum = 16

27: factors 1, 3, 9; sum = 13

28: factors 1, 2, 4, 7, 14; sum = 28

29: factors 1, 29; sum = 30

30: factors 1, 2, 3, 5, 6, 10, 15; sum = 42