Puzzle of the Week

Maximizing Products with 16

Look at ways to break up 16 into a sum of numbers that you can then multiply to get as big a product as possible. Writing 16 = 10 + 6 is a start, but 16 = 6 + 5 + 5 is better. Can you do better?

$$16 = 10 + 6 \text{ and } 10 \times 6 = 60$$

$$16 = 6 + 5 + 5 \text{ and } 6 \times 5 \times 5 = 150$$

THE CHALLENGE: What is the biggest product you can make by breaking 16 into a sum of numbers?

EXPLORATION: How does your strategy change if you replace 16 with 20, 50, or 100?