5.2 Area

Name: Date: June 15, 2015

P 1. Find the sum.

$$\sum_{i=1}^{6}(3i+2)$$

P 2. Find the sum.

$$\sum_{k=3}^{9}(k^2+1)$$

P 4. Find the sum.

$$\sum_{j=4}^{6}\frac{3}{j}$$

P 6. Find the sum.

$$\sum_{i=1}^{4}[(i-1)^2+(i+1)^3]$$

P 7. Use sigma notation to write the sum.

$$\frac{1}{5(1)}+\frac{1}{5(2)}+\frac{1}{5(3)}+\cdots+\frac{1}{5(11)}$$

P 8. Use sigma notation to write the sum.

$$\frac{9}{1+1}+\frac{9}{1+2}+\frac{9}{1+3}+\cdots+\frac{9}{1+14}$$

P 12. Use sigma notation to write the sum.

$$\left[2\left(1+\frac{3}{1}\right)^2\right]\left(\frac{3}{1}\right)+\left[2\left(1+\frac{3}{2}\right)^2\right]\left(\frac{3}{2}\right)+\cdots+\left[2\left(1+\frac{3}{2}\right)^2\right]\left(\frac{3}{2}\right)$$

P 14. Find the sum.

$$\sum_{i=1}^{30} -18$$

P 16. Find the sum.

$$\sum_{i=1}^{16}(5i-4)$$

P 18. Find the sum.

$$\sum_{i=1}^{10}(i^2-1)$$

P 22. Rewrite without the summation notation.

$$\sum_{j=1}^{n}\frac{7j+4}{n^2}$$

P 24. Rewrite without the summation notation.

$$\sum_{i=1}^{n}\frac{2i^3-3i}{n^4}$$

P 25. Find two approximations for the area of the region between the graph of $f(x) = 2x + 5$ and the x-axis over the interval $[0, 2]$ using 4 rectangles.

P 29. Find two approximations for the area of the region between the graph of the $f(x) = \cos x$ and the x-axis over the interval $[0, \pi]$ using 6 rectangles.

P 47. Find the area of the region bounded by the graph of $y = x^2 + 2$ on the interval $[0, 1]$.