

Intermediate Algebra 15% ~ about 9 out of 60

5. A function  $P$  is defined as follows:

for  $x > 0$ ,  $P(x) = x^5 + x^4 - 36x - 36$  #1

for  $x < 0$ ,  $P(x) = -x^5 + x^4 + 36x - 36$  #2

What is the value of  $P(-1)$ ?

- A. -70
- B. -36
- C. 0
- D. 36
- E. 70

$-1 < 0$  so use equation #2

$$P(-1) = -(-1)^5 + (-1)^4 + 36(-1) - 36$$

$$= +1 + 1 - 36 - 36$$

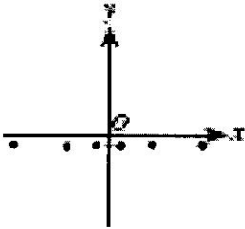
$$= -70$$

(A)

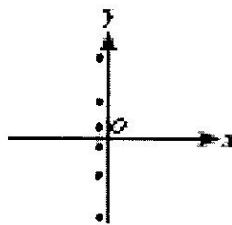
Coordinate Geometry 15% ~ about 9 out of 60

6. All of the following graphs have equal scales on the axes. One of the graphs shows only points for which the  $y$ -coordinate is 1 less than the square of the  $x$ -coordinate. Which one?

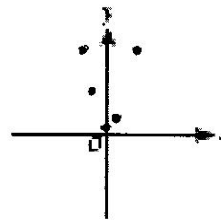
F.



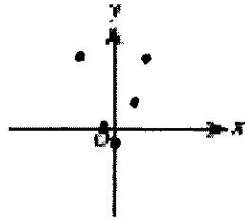
G.



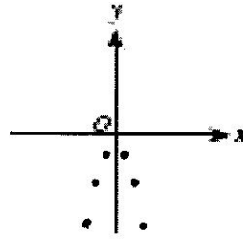
H.



J.



K.



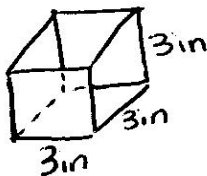
$Y = x^2 - 1$   
This is a parabola moved down one unit. Thus + vertex is below  $x$ -axis.

(J)

Plane Geometry 23% ~ about 14 out of 60

7. The edges of a cube are each 3 inches long. What is the surface area, in square inches, of this cube?

- F. 9
- G. 18
- H. 27
- J. 36
- K. 54



6 squares each  $3 \times 3$   
So  $9 \text{ in}^2$   
 $\times 6 \text{ squares}$   
 $\hline 54 \text{ in}^2$

(K)

8. For a project in Home Economics class, Kirk is making a tablecloth for a circular table 3 feet in diameter. The finished tablecloth needs to hang down 5 inches over the edge of the table all the way around. To finish the edge of the tablecloth, Kirk will fold under and sew down 1 inch of the material all around the edge. Kirk is going to use a single piece of rectangular fabric that is 60 inches wide. What is the shortest length of fabric, in inches, Kirk could use to make the tablecloth without putting any separate pieces of fabric together?

- F. 15
- G. 24
- H. 30
- J. 42
- K. 48

(K) 48 in. across

