2B1	Corrigé partiel du devoir III	30.06.2014

Question 1

(1)
```
function horner(p:poly;x:extended):extended;
var i:integer;
begin
  result:=p.c[p.d];
    for i:=p.d-1 downto 0 do result:=result*x+p.c[i]
end;
```

(2) Le paramètre x reste toujours égal à -3. Le degré du polynôme est 4, les coefficients sont :

p.c[4]:=6 ; p.c[3]:=7 ; p.c[2]:=0 ; p.c[1]:=-5 ; p.c[0]:=8 ;

i	result
/	6
3	-11
2	33
1	-104
0	320

Donc : $p(-3) = 320$.

(3) a)
```
var i : integer ;
    a : poly ;

a.nom := 'a';
a.d :=20 ;
for i :=0 to 20 do
  if i mod 2 = 0 then a.c[i] := i+1 else a.c[i] := -i-1
```
b)
```
writeln(horner(a,3-horner(a,2)));
```

Question 2

(1)
```
procedure matriceAuHasard(var m:matrice);
var r,i,j,n:integer;
begin
  m.nom:=chr(ord('A')+random(26));
  r:=random(9)+2;
```

```
        m.colCount:=r;
        m.rowCount:=r;
        for i:=1 to r do
          for j:=1 to r do
            begin
              n:=random(2);
              if n=0 then m.items[i,j]:=0
              else m.items[i,j]:=2*random(2)-1
            end
    end;
```

Question 3

(1)

```
function sqrLongSegment(A,B:point):extended;
begin
  result:=sqr(A.y-B.y)+sqr(A.x-B.x)
end;
```

(2)

```
function triRectangle(t:triangle):boolean;
var i,max:integer;
    l:array[0..2] of extended;
begin
  for i:=0 to 2 do
    l[i]:=sqrLongSegment(t[(i+1) mod 3], t[(i+2) mod 3]);
  if l[0]>l[1] then max:=0 else max:=1;
  if l[2]>l[max] then max:=2;
  result:=l[max]=l[(max+1) mod 3]+l[(max+2) mod 3]
end;
```

<div align="right">G. Lorang</div>