Решение

Найдём производную

1. f(x)’  = (x-2)’ + (3/2 \* x-2/3)’ - (4\*x-1/2 )’ + (3x)’ – (2\*x5/2)’ =-2\*x-3 + 3/2\*x-5/3 – 4\*x/3/2 + 3 – 2\*x3/2 ;

f’ (1) = 2 – 3/2+ 4 + 3 + 2 =10 ½

1. f’(u) = (u2 + 3)’ \* (u2 -1)1/2 + (u2 + 3) \*( (u2 -1)1/2)’= 2u\*(u2 -1) + ½((u2 -1)-1/2 \* (u2 + 3) ;

f(2) = 4\*(3)1/2 + ½\* (3)-1/2 \*7 = 31/2√3

1. f’(x) =(x’ \*(1 - √x2 +1) – x\* (1 - √x2 +1)’ ) / (1 - √x2 +1)2 = 1 - √x2 +1 – x\*(1/2(x2 +1)-1/2 / (1 - √x2 +1)2

f’(√3) = (1 – 2 - √3\*(1/2\*1/2)/(1 – 2)2 = -(1 + √3/4)

1. f’ (x) = (√ex )’ \* lnx2 + √ex \* (lnx2 )’ = ½\*ex \* nx2 + 2 √ex ;

f’ (1) = 0+2 = 2

1. Ускорение равно второй производной от S

S’  = 6t2 – 6t

S’’  = 12t – 6

 Ускорение а = 12\*3 – 6 = 30м/с