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**Computing two special cases of Gauss hypergeometric function. (English summary)**

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The paper reviews known properties of the Gaussian hypergeometric function  $F(a, b; c; x)$  to express in elementary closed form the expressions  $F(a, a + 1/2; 1/2; x) = f(x)$  and  $F(a, a + 1/2; 3/2; x) = g(x)$  respectively in certain equations where  $f, g$  are elementary functions involving powers and trigonometric functions of real  $x$ . In addition, three algebraic relations between  $f$  and  $g$  are used to obtain three formulas for the square of  $F(a/2, a/2 + 1/2; 1/2; x)$ , the square of  $F(a/2 + 1, a/2 + 1/2; 3/2; x)$  and the product of  $F(a, a + 1/2; 1/2; x)F(a + 1, a + 1/2; 3/2; x)$ . The results are related to a Maple algorithm (FPS) previously introduced by one of the authors.

Reviewed by *Luis Manuel Braga de Costa Campos*

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