[1]
(a)
$$f_{e}(z) = \overline{f_{pp}} e^{-z^{2}/2}$$
(b) $P(-1 < x < 1) = \overline{f_{pp}} \int_{-1}^{2} e^{-\frac{x^{2}}{2}} dx = 0.68269$
(c)
$$97.5\% = 6.9153 z = 1.71$$

$$A^{2}1.96$$

$$-x$$

$$A^{2}1.96$$
(d) $f_{0}(z) = \begin{cases} z^{\frac{1}{2}} P(1/2) & z^{\frac{1}{2}} e^{-\frac{x^{2}}{2}} & y > 0 \end{cases}$
(e) $E[a] = 1$
(f) $f_{0}(z) = \int_{0}^{1} \int_{0}^{1} \int_{0}^{1} y^{\frac{1}{2}} e^{-\frac{x^{2}}{2}} dy$
(g) $P(a \le 1) = \int_{0}^{1} \int_{0}^{1} \int_{0}^{1} y^{\frac{1}{2}} e^{-\frac{x^{2}}{2}} dy$
(2) $P(a \le 1) = \int_{0}^{1} \int_{0}^{1} \int_{0}^{1} y^{\frac{1}{2}} e^{-\frac{x^{2}}{2}} dy$
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(4) $P(a \ge 1) = \int_{0}^{1} \int_{0}^{1} e^{-\frac{x^{2}}{2}} e^{-\frac{x^{2}}{2}} dy$
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(h)
$$P(T_3 > 3) = \int_3^\infty \frac{1}{T'(3)} t^2 \cdot e^{-t} dt = 0.423 \times (9) P(T_2 > 1) = 6.0296.$$

4t. gamma. sf (x=1, a=3, scale=1).