

Problem 1

$$1) 2^6 = 64$$

$$2) nCr(9,4) = 126 \quad nCr(9,5) = 126$$

$$3) \frac{1+7+21+35}{128} = \frac{64}{128} \quad \text{binomCdf}\left(7, \frac{1}{2}, 0, 3\right) = 0.5 \text{ or } 50\%$$

$$4) 2^8 \blacktriangleright 256$$

$$5) nCr(7,5) \blacktriangleright 21$$

$$6) \frac{15+20+15+6+1}{64} = \frac{57}{64} = 0.890625 = \text{binomCdf}\left(6, \frac{1}{2}, 2, 6\right) = 0.890625 \text{ or } 89.0625\%$$

$$7) \frac{28}{256} = \frac{7}{64} = 0.109375 \quad \text{binomPdf}\left(8, \frac{1}{2}, 6\right) \blacktriangleright 0.109375 \text{ or } 10.9375\%$$

$$8) \frac{126+84+36+9+1}{512} = \frac{256}{512} = \frac{1}{2} \text{ or } 50\%$$

$$9) \frac{1+7+21}{128} = \frac{29}{128} = 0.226563 \quad \text{binomCdf}\left(7, \frac{1}{2}, 0, 2\right) = 0.226563 \text{ or } 22.6563\%$$

$$10) \frac{56+28+8+1}{256} = \frac{93}{256} = 0.363281 \quad \text{binomCdf}\left(8, \frac{1}{2}, 5, 8\right) = 0.363281 \text{ or } 36.3281\%$$