Addendum to the original contest

5C – prime omitted – question adjusted after the contest so answer as intended (1:8:16)

 $area(\Delta AFD)$: area(DEC'B): area(DECB)

Answer to original question: 1:12:16

Round 6 – 6A changed after contest and note added to 6B

Negative exponents should be avoided in algebra contest at this time of year.

$$6A$$
 – question actually asked $\left(\sqrt{8} - \frac{1}{\sqrt{2} - \frac{1}{\sqrt{2}}}\right)^{-2}$ Ans: 1/2

6B - added to the original question:

Note: For any real number $x \neq 0$, x^{-1} is equivalent to $\frac{1}{x}$.