

Largest (proven) primes: Mersenne Primes, [Spring, 2000]

2nd largest: just under 1 million digits,

$$2^{3021377} - 1, \text{ January 1998}$$

largest: just over 2 million digits,

$$2^{6972593} - 1, \text{ June 1999. WINNER!}$$

EFF Prize for first million-digit prime \$50K

[**2006 update:** 256669 other Mersenne numbers $2^p - 1$, p prime,
 $3021377 < p < 6972593$, all composite.]

Grand Challenge: \$100K for first 10 million digit prime

1st possible exponent n larger than 33 million:

$$(2^{33219278} - 1 > 10^{9,999,999})$$