

Exponents + Factoring

3. (B) $t^2 - 36$

→ This is an example of a perfect square binomial because 36 is a perfect square.

$$(t + 6)(t - 6)$$

Note: The signs are ALWAYS different with a difference of squares because that's the only way to get a negative number when you multiply as well as to cancel out the middle terms.

→ Check: $(t + 6)(t - 6)$ by foiling

$$t^2 - 6t + 6t - 36$$

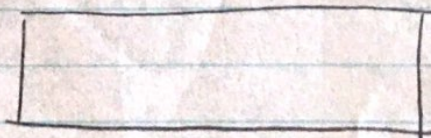
these cancel to make:

$$t^2 - 36 \checkmark$$

5. (D) Draw it out!

$$l = w + 4$$

$$w = w$$



The question states that James will increase both dimensions of the floor by 2 ft, so add 2 to both the length + width and then FOIL!

$$l = w + 6$$

$$w = w + 2$$

$$(w + 6)(w + 2)$$

$$w^2 + 2w + 6w + 12 = w^2 + 8w + 12$$

16. c) You are given an equation and a value for x . Since in 1964 $x=0$, then in 1965 $x=1$, 1966 $x=2$ etc. Figure out what $x=$ for 1970, 1975 and 1980 + the plug x into the equation to solve.

$$1965 \quad x=1$$

$$1970 = 6$$

$$1975 = 11$$

$$1980 = 16$$

} Plus 5 each time

$$1965 \rightarrow 20.8(1^2) - 458.3(1) + 3500$$

$$20.8 - 458.3 + 3500 = \boxed{\$3,062.50}$$

$$1970 \rightarrow 20.8(6^2) - 458.3(6) + 3500$$

$$748.8 - 2911.8 + 3500 = \boxed{\$1337}$$

$$1975 \rightarrow 20.8(11^2) - 458.3(11) + 3500$$

$$2516.8 - 5038 + 3500 = \boxed{978.80}$$

$$1980 \rightarrow 20.8(16^2) - 458.3(16) + 3500$$

$$5324.8 - 7328 + 3500 = \boxed{1496.80}$$