1. $\boxed{\text{D}}$
2. $\boxed{\text{A}}$
3. $\boxed{\text{E}}$
4. First simplify $\left(a^{\frac{1}{2}}b^{\frac{1}{3}}\right)^6 = a^3b^2$. Also, prime factorize $432 = 2^4 3^3$. So let $a = 3$, and $b = 4$, so that we get $a^3b^2 = 3^3 4^2 = 432$. So then $ab = 3 \cdot 4 = 12$. $\boxed{\text{B}}$
5. $\boxed{\text{C}}$
6. $\boxed{\text{B}}$
7. If Stacy is 12th tallest, then there are 11 people taller than her. If she is 12th shortest, there are 11 people shorter than her. Then there are $11 + 11 + 1 = 23$ students in the class (the $+1$ includes Stacy). $\boxed{\text{B}}$
8. For $k = 4, 6, 12$, $15 \div k$ has remainder 3. So there are three values of k. $\boxed{\text{C}}$
9. $\boxed{\text{C}}$
10. $\boxed{\text{E}}$