1. Multiply fractions (and mixed numbers).

|  |  |  |  |
| --- | --- | --- | --- |
|  | Proper Fractions Given | Mixed Numbers Given | Combination |
| No simplification possible | Involves simplification | No simplification possible | Involves simplification | No simplification possible | Involves simplification |
| Multiplication: repeated addition (“equal-groups”) |  |  |  |  |  |  |
| Multiplication: multiplicative comparison |  |  |  |  |  |  |
| Multiplication: arrays (“product-of-measures”) |  |  |  |  |  |  |

1. Multiply decimals.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Both are one non-zero digit | More than one non-zero digit | Problem requires adding a zero (e.g., .02 \* 1.2 = 0.024) |
| Multiplication: repeated addition (“equal-groups”) |  |  |  |
| Multiplication: multiplicative comparison |  |  |  |
| Multiplication: arrays (“product-of-measures”) |  |  |  |

1. Divide fractions (and mixed numbers).

|  |  |  |  |
| --- | --- | --- | --- |
|  | Proper Fractions Given | Mixed Numbers Given | Combination |
| No simplification possible | Involves simplification | No simplification possible | Involves simplification | No simplification possible | Involves simplification |
| Division: Fair division (partition) |  |  |  |  |  |  |
| Division: Repeated Subtraction (measurement) |  |  |  |  |  |  |