1. Two quantities are described in each part below. Decide whether the first is larger than, smaller than, or equal to the second.

(a) A number, or 30% of that number
(b) A number, or 500% of that number
(c) 30% of a number, or 0.03 times the number
(d) 30% of a number, or 1/3 of the number
(e) 1.5 times a number, or 1.5% of the number
(f) A number plus 30% of itself, or 130% of the number
(g) 15/99 of a number, or 15% of the number
(h) 150% of a number, or 2 times the number
(i) 105% of a number, or 1.5 times the number
(j) 1.05% of a number, or the original number
(k) One third of a number, or 1/3% of the number
(l) 30% of 50% of a number, or 20% of the number
(m) 40% of a number, or 20% of 20% of the number

2. (a) A number is 75% of \(x\). Is the number more or less than \(x\)?
(b) \(x\) is 75% of a number. Is the number more or less than \(x\)?
(c) \(y\) is 105% of a number. Is the number more or less than \(y\)?
(d) A number is 105% of \(y\). Is the number more or less than \(y\)?
(e) If you take 10% of 10\(x\), how does the result compare to \(x\)?
(f) If \(x\) is between 10 and 20, is \(x + 1\) more or less than 100% of \(x\)?
(g) If \(x\) is between 10 and 20, is \(x + 1\) more or less than 200% of \(x\)?
(h) If \(x\) is between 10 and 20, how does 10% of 10 + \(x\) compare to \(x\)?

3. Solve these non-contextual problems. Round to the nearest tenth of a percent, or to the nearest hundredth of “concrete” numbers.

(a) What number is 18.3% of 50?
(b) What percent is 18.3 of 50?
(c) Thirteen and eight tenths is 50% of what number?
(d) Sixty-five% of 120 is what?
(e) Seventy-five is what percent of 120?
(f) Sixty-five is 18% of \(x\). What is \(x\)?
(g) What is 333% of 92?
(h) What percent of 72.5 is 19?
(i) What number is 107 twenty-three percent of?
(j) Of 87.3, what percent is 15.7?
1. (a) The number is larger than 30% of that number.
    (b) The number is smaller than 500% of that number.
    (c) 30% of a number is larger than 0.03 times the number. (0.03 times the number is only 3%.)
    (d) 1/3 of the number is larger. (1/3 = 0.\overline{3} is more than 0.3.)
    (e) 1.5 times a number is larger than 1.5% of the number. (1.5 times the number is 150%.)
    (f) A number plus 30% of itself is equal to 130% of the number.
    (g) 15/99 of the number is larger. (15/99 > 15/100)
    (h) 150% of a number is smaller than 2 times the number. (2 times the number is 200%.)
    (i) 105% of a number is smaller than 1.5 times the number. (1.5 times the number is 150%.)
    (j) 1.05% of a number is smaller than the original number. (The original is 100%, not 1%.)
    (k) One third of a number is larger than 1/3% of a number. (One third of a number is 33\frac{1}{3}%).
    (l) 30% of 50% of a number is smaller than or 20% of the number. (30% of 50% is 0.3 \times 0.5 = 0.15 = 15%.)
    (m) 40% of a number is larger than 20% of 20% of the number. (20% of 20% is 0.2 \times 0.2 = 0.04 = 4%).

2. (a) The number is less than \( x \) (because it isn’t even all 100% of \( x \)).
    (b) The number is more than \( x \) (because \( x \) isn’t even all 100% of the number).
    (c) The number is less than \( y \) (because \( y \) is over 100% of the number).
    (d) The number is more than \( y \) (because it is over 100% of \( y \)).
    (e) It equals \( x \).
    (f) \( x + 1 \) is more than 100% of \( x \) (because 100% of \( x \) IS \( x \)).
    (g) \( x + 1 \) is less than 200% of \( x \) (because 200% of \( x \) is double what \( x \) is).
    (h) It is less than \( x \).

3. (a) 9.15
    (b) 36.6%
    (c) 27.6
    (d) 78
    (e) 62.5%
    (f) 361\frac{1}{3}
    (g) 306.36
    (h) 26.2%
    (i) 465.22
    (j) 18.0%