

1.2 Decimal Operations

For each question, decide whether the answer is positive or negative. Then calculate the answer.

$$2.65 + (-3.81) = -1.16$$

$$2.65 - 3.81$$

$$\begin{array}{r} 7 \text{ } \\ 3.81 \\ -2.65 \\ \hline 1.16 \end{array}$$

$$-5.96 - (-6.83) = +0.87$$

$$-5.96 + 6.83$$

$$\begin{array}{r} 5 \text{ } 17 \text{ } 13 \\ 6.83 \\ -5.96 \\ \hline 0.87 \end{array}$$

$$-4.38 + (-5.12) = -9.5$$

$$-4.38 - 5.12$$

$$\begin{array}{r} 4.38 \\ 5.12 \\ \hline 9.50 \end{array}$$

$$6.21 - (-6.84) = 13.05$$

$$6.21 + 6.84$$

$$\begin{array}{r} 6.21 \\ 6.84 \\ \hline 13.05 \end{array}$$

For each question, decide whether the answer is positive or negative and estimate the answer. Then use a calculator to determine the exact answer.

$$9.49 \times 5.08 = +48.2092$$

$$\begin{array}{l} 9 \times 5 = 45 \\ 10 \times 5 = 50 \end{array} \left. \begin{array}{l} \text{answer is} \\ \text{between} \\ \text{these values} \end{array} \right\}$$

$$-0.86 \div -0.42 = 2.047619$$

$$\begin{array}{l} -0.84 \div -0.42 = 2 \\ \text{answer is greater} \\ \text{than 2} \end{array}$$

$$2.4 \div -1.4 = -1.714285$$

$$2.8 \div -1.4 = -2$$

↑ since this is greater than 2.4, answer should be smaller

$$-2.52 \times 7.07 = -17.8164$$

$$\begin{array}{l} -2 \times 7 = -14 \\ -3 \times 7 = -21 \end{array}$$

$$-2.5(2.5) = -6.25$$

$$-2(2.5) = -5$$

$$-3(2.5) = -7.5$$

$$12.4 \div -2.9 = -4.275862069\dots$$

$$12 \div -3 = -4$$

Practise:

1. Without using a calculator, predict whether the answer is a positive or a negative value. Then use a calculator to determine the answer.

a) $0.98 + (-2.91) =$

b) $5.46 - 3.16 =$

c) $-4.23 + (-5.75) =$

2. Decide whether the answer is a positive or a negative value and estimate the answer. Then use a calculator to determine the exact answer.

a) $2.7 \times (-3.2) =$

b) $-4.37 \div (-0.095) =$

c) $-2.4(-1.5) =$

d) $-5.3(4.2) =$

e) $19.5 \div (-16.2) =$

f) $-1.91 \times (-0.51) =$

3. A submarine is cruising at a depth of 153 m. It then rises at 4.5 m/min for 15 min.

a) What is the submarine's depth at the end of the 15 min? **min?**

b) If the submarine continues to rise at the same rate, how much longer will it take to reach the surface?