11 | Estimation and Approximation

Worksheet for Classworks — §11.2

Classwork 11.1 *(page 11.6)*

By rounding off each number to the nearest ten, estimate the value of $29+58-33+17$.

Solution:

$29+58-33+17 \approx$ _____

$=$ _____

Classwork 11.2 *(page 11.6)*

By using a clustered value, estimate the value of $11.9+12.8+11.3+12.1$.

Solution:

By using _____ as the clustered value,

$11.9+12.8+11.3+12.1 \approx$ _____

$=$ _____

Classwork 11.3 *(page 11.6)*

By using compatible values, estimate the value of 321.32×0.48.

Classwork 11.4 *(page 11.7)*

By using compensation strategy, estimate the value of $2\,788 \times 5.96$.

Classwork 11.5 *(page 11.7)*

By using translation strategy, estimate the value of $2.959 \times (450.2 \div 26.9)$.

Solution:

$2.959 \times (450.2 \div 26.9) = ($ _____ $\div$ _____ $) \times$ _____

Classwork 11.6 *(page 11.8)*

99.8 kg of rice is evenly distributed among 11 families in a village. Estimate the amount of rice distributed to each family and explain your estimation strategy.

Classwork 11.7 *(page 11.8)*

Determine whether $81.2 \times 0.49 - 6.98 \times 5.1 \div 7 \approx 4.19$ is reasonable.

Classwork 11.8 *(page 11.9)*

Oliver wants to buy five items from a shop for $31.6, $24.7, $9.9, $15.8 and $7.5.

(a) By rounding up the price of each item to the nearest ten dollars, estimate the total price of the five items.

(b) If Oliver has only $120, does he have enough money to pay the bill? Use the result in **(a)** to explain your answer.

Solution:

(a)

(b)

Classwork 11.9 (page 11.11)

Kelly wants to buy the following books from a bookstore.

Book	Unit price	Quantity needed
Story book	$38	3
Reference book	$115	1
Cookery book	$59	2

(a) By rounding down the unit price of each book to the nearest ten dollars, estimate the total amount that Kelly should pay.

(b) If a gift will be given for any purchase of $300 or above, can Kelly get the gift? Use the result in **(a)** to explain your answer.

Solution:

(a)

(b)

11 | Estimation and Approximation

Worksheet for Classworks — §11.4

Classwork 11.10 (page 11.20)

The total expenses of Connie in October is $2 200. Find her average daily expenses in October, correct to

(a) 3 significant figures,

(b) 2 significant figures.

Solution:

(a)

(b)