

Elapsed Time

Packet #10 1/2 Credit

EXAMPLE

Find the elapsed time from 7:35 A.M. to 1:15 P.M.

Step 1 Rename 1:15 P.M. to 24 hour clock by adding 12 hours.

$$1:15 \text{ P.M.} = 13 \text{ hours } 15 \text{ minutes}$$

Step 2 Subtract earlier time from later time. Rename 1 hour = 60 minutes, if necessary.

$$\begin{array}{r} 13 \text{ hours } 15 \text{ minutes} = 12 \text{ hours } 75 \text{ minutes} \\ - 7 \text{ hours } 35 \text{ minutes} = - 7 \text{ hours } 35 \text{ minutes} \\ \hline 5 \text{ hours } 40 \text{ minutes} \end{array}$$

The elapsed time from 7:35 A.M. to 1:15 P.M. is 5 hours and 40 minutes.

Directions Solve the following problems. Rename afternoon hours to 24 hour clock, if necessary. Rename one hour to 60 minutes when necessary.

1.
$$\begin{array}{r} 1:05 \text{ P.M.} \\ - 4:40 \text{ A.M.} \\ \hline \end{array}$$

2.
$$\begin{array}{r} 2:10 \text{ P.M.} \\ - 9:15 \text{ A.M.} \\ \hline \end{array}$$

3.
$$\begin{array}{r} 10:04 \text{ P.M.} \\ - 2:18 \text{ A.M.} \\ \hline \end{array}$$

4.
$$\begin{array}{r} 1:15 \text{ P.M.} \\ - 8:45 \text{ A.M.} \\ \hline \end{array}$$

5.
$$\begin{array}{r} 1:35 \text{ P.M.} \\ - 9:50 \text{ A.M.} \\ \hline \end{array}$$

6.
$$\begin{array}{r} 8:55 \text{ P.M.} \\ - 1:51 \text{ P.M.} \\ \hline \end{array}$$

7.
$$\begin{array}{r} 6:10 \text{ P.M.} \\ - 8:06 \text{ A.M.} \\ \hline \end{array}$$

8.
$$\begin{array}{r} 4:17 \text{ P.M.} \\ - 9:43 \text{ A.M.} \\ \hline \end{array}$$

9. From 10:34 A.M. to 1:19 P.M.
 10. From 6:51 A.M. to 2:54 P.M.
 11. From 12:22 P.M. to 7:31 P.M.
 12. From 8:15 P.M. to 10:19 P.M.



Bus Travel Times

EXAMPLE
Rules:

1. To find departure time, subtract the duration hours and minutes from the arrival time.
2. To find arrival time, add duration to the departure time.
3. To find the duration time, subtract the departure time from the arrival time.

Find the arrival time if the duration of the trip is 3 hours and 45 minutes and the departure time is 9:15 P.M. Use rule 2.

$$\begin{array}{r}
 9:15 \text{ P.M.} \\
 + 3:45 \text{ duration} \\
 \hline
 12:60 \Rightarrow 13:00 \Rightarrow 1:00 \text{ A.M., the next morning}
 \end{array}$$

Directions This table represents times for a bus trip between New York and Baltimore. Fill in the table below with the correct missing times. On the back of this paper, write what you think might cause the differences in the duration times for this trip.

	Departure Time	Arrival Time	Duration of Trip
1.	02:00 A.M.		3 hours, 40 minutes
2.	05:05 A.M.		4 hours, 55 minutes
3.	06:40 A.M.		4 hours, 5 minutes
4.	11:45 A.M.		4 hours, 10 minutes
5.	01:20 P.M.		3 hours, 45 minutes
6.	04:00 P.M.		3 hours, 59 minutes
7.	01:30 P.M.	05:30 P.M.	
8.	03:35 P.M.	07:50 P.M.	
9.	04:00 P.M.	08:20 P.M.	
10.	09:30 P.M.		3 hours, 55 minutes



Hotel Rates

EXAMPLE

Lizette and her husband stay in a hotel with their 3 children. The room rate is \$224 per night. There is a 12% room tax. What is their charge for a 3-night stay?

Step 1 Find the total room charge.

$$\begin{array}{r} \$224 \text{ per night} \\ \times 3 \text{ nights} \\ \hline \$672 \text{ room charge} \end{array}$$

Step 2 Add the tax.

$$100\% \text{ for the room plus } 12\% \text{ for the tax} = 112\%$$

$$\$672 \times 112\% = \$752.64$$

The total cost for Lizette's family to stay in the hotel room for 3 nights is \$752.64

Directions Find the room charge and total cost for these problems.

	Room Rate	Nights	Room Charge	Percent Tax	Total Cost
1.	\$205	2		10%	
2.	\$102	15		25%	
3.	\$305	3		11%	
4.	\$156	1		14%	
5.	\$187	6		12%	
6.	\$192	7		13%	
7.	\$155	3		12%	
8.	\$193	1		15%	
9.	\$372	3		21%	
10.	\$1,547	4		17%	
11.	\$208	2		15%	
12.	\$166	4		12%	
13.	\$109	5		18%	
14.	\$325	3		15%	
15.	\$199	2		12%	
16.	\$904	4		20%	



Division Practice

EXAMPLE

Often division results in a zero in the quotient. Be certain to notice each division and place a zero correctly.

$$\begin{array}{r} 109 \\ 17 \overline{) 1,853} \\ \underline{17} \\ 15 \\ \underline{0} \\ 153 \\ \underline{153} \\ 0 \end{array}$$

← Remember to place this 0 in the problem and in the answer.

Directions Divide

1. $6 \overline{) 612}$

2. $10 \overline{) 10,900}$

3. $8 \overline{) 10,432}$

4. $5 \overline{) 5,100}$

5. $6 \overline{) 13,254}$

6. $4 \overline{) 6,420}$

7. $12 \overline{) 7,224}$

8. $15 \overline{) 37,500}$

9. $21 \overline{) 8,484}$

10. $26 \overline{) 7,826}$

11. $43 \overline{) 43,129}$

12. $18 \overline{) 14,040}$

13. $24 \overline{) 5,040}$

14. $61 \overline{) 18,483}$

15. $19 \overline{) 38,133}$



Exchange Currency

EXAMPLE
Table of Currency Exchange Rates

Country	Currency Name	Number of Units That Equal One U.S. Dollar	Country	Currency Name	Number of Units That Equal One U.S. Dollar
Australia	dollar	1.87 dollars	Japan	yen	131.55 yen
Brazil	real	2.32 reals	Mexico	peso	9.19 pesos
Britain	pound	0.69 pounds	South Africa	rand	11.9 rands
Canada	dollars	1.60 dollars	Sweden	krona	10.61 kronor
China	yuan	8.28 yuan	Switzerland	franc	1.68 francs
Denmark	kroner	8.43 kroner	Thailand	baht	44.18 baht

William exchanges 75 U.S. dollars for Danish kroner. How many kroner will he receive?

Multiply the exchange rate for one U.S. dollar times the U.S. dollar amount.

$$8.43 \text{ kroner} \times \$75 = 632.25 \text{ kroner} = 632$$

William will receive 632 kroner in exchange for 75 U.S. dollars.

Directions Find the amount of native currency that will be exchanged for \$75 U.S. Use the chart above.

	Country	Number of Units That Equal 75 U.S. Dollars
1.	Australia	
2.	Brazil	
3.	Britain	
4.	Canada	
5.	China	
6.	Denmark	632 kroner

	Country	Number of Units That Equal 75 U.S. Dollars
7.	Japan	
8.	Mexico	
9.	South Africa	
10.	Sweden	
11.	Switzerland	
12.	Thailand	

Computing Rental Charges

EXAMPLE

Sweet Tooth Bakery rented a van for \$30 per day and \$0.32 per mile. Find the rental charge for six days and 602 miles.

\$ 30 Per day	\$ 602 Miles	\$ 180.00 Day charge
× 6 Days	× .32 Per mile	+192.64 Mile charge
\$180 Day charge	12 04	\$ 372.64 Total
	+180 6	
	\$192.64 Mile charge	

Sweet Tooth Bakery's rental charge was \$372.64.

Directions Compute the rental charge for each item below. The answer to Number 1 is \$236.20.

Cost Days	Cost per Day	Cost per Mile	Rental Driven	Charge
1. 4	\$30	\$0.28	415	_____
2. 2	\$29	\$0.27	156	_____
3. 4	\$21	\$0.30	150	_____
4. 6	\$21	\$0.19	719	_____
5. 4	\$26	\$0.14	361	_____
6. 2	\$32	\$0.12	109	_____
7. 6	\$22	\$0.15	339	_____
8. 3	\$34	\$0.19	349	_____
9. 5	\$26	\$0.25	252	_____
10. 21	\$19	\$0.26	146	_____
11. 1	\$30	\$0.18	119	_____
12. 2	\$23	\$0.28	150	_____
13. 6	\$22	\$0.20	778	_____
14. 2	\$21	\$0.19	171	_____
15. 2	\$18	\$0.14	130	_____
16. 1	\$22	\$0.24	78	_____
17. 1	\$15	\$0.26	99	_____
18. 6	\$28	\$0.25	714	_____
19. 1	\$23	\$0.21	133	_____



Parking Expenses

EXAMPLE

The sign at the right lists the rates at the Airport Parking Lot. Neece parks her car on Friday at 10:30 P.M. and leaves the lot on Monday at 6:30 A.M. How much does she pay in parking rates for the time her car was at the Airport Parking Lot?

Step 1 Find the parking time on Friday

$$\begin{array}{r} 12:00 \text{ midnight} \\ - 10:30 \\ \hline 1 \text{ hour } 30 \text{ minutes} \end{array}$$

Step 2 Find the cost for Friday

$$\begin{array}{r} \$2.00 \text{ First hour} \\ 1.50 \text{ Last 30 minutes} \\ \hline \$3.50 \end{array}$$

Step 3 Find the cost for Saturday and Sunday.

$$\begin{array}{r} \$12 \text{ Saturday} \\ 12 \text{ Sunday} \\ \hline \$24 \end{array}$$

Step 4 Find the cost for Monday

$$\begin{array}{r} \$2.00 \text{ First hour} \\ \$1.50 \times 6 \text{ remaining hours} = \$9 \\ \hline \text{Cost for Monday is } \$11 \end{array}$$

Step 5 Total the daily costs

$$\begin{array}{r} \$ 3.50 \text{ Friday} \\ 24.00 \text{ Saturday \& Sunday} \\ 11.00 \text{ Monday} \\ \hline \$38.50 \text{ Total} \end{array}$$

Neece must pay \$38.50 for the Airport Parking Lot parking.

Airport Park Lot Rates

\$2 for the first hour

\$1.50 for each additional hour (or part of an hour)

\$12 maximum per day.

Directions Find the cost for parking at the Airport Parking Lot for the following times.

1. Monday, 6:45 A.M. to Friday, 5:55 P.M. _____
2. Sunday, 10:15 P.M. to Wednesday, 6:00 A.M. _____
3. Wednesday, 5:42 P.M. to Sunday, 9:10 A.M. _____
4. Wednesday 9:30 P.M. to Friday, 1:25 A.M. _____
5. Saturday, 8:30 P.M. to Thursday, 12:05 A.M. _____



What Time Is It?

The map shows the United States divided into four time zones.

Pacific Time Mountain Time Central Time Eastern Time
 9:00 a.m. 10:00 a.m. 11:00 a.m. 12:00 Noon

EXAMPLE

If it is 10:20 A.M. in Cleveland, what time is it in Tulsa?

Solution: Tulsa is one time zone west of Cleveland. Therefore, the time in Tulsa is one hour earlier: 9:20 A.M.



Directions Use the map to compute the time for each of the following problems.

If the time in...	Is...	The time in...	Is?
1. Salt Lake City	3:51 P.M.	San Diego	_____
2. Miami	10:09 P.M.	Salt Lake City	_____
3. Cleveland	5:03 P.M.	Denver	_____
4. Minneapolis	3:38 A.M.	Louisville	_____
5. Cheyenne	9:47 A.M.	Pittsburgh	_____
6. Los Angeles	8:32 P.M.	St. Louis	_____
7. Boise	9:32 A.M.	Eugene	_____
8. Atlanta	4:53 P.M.	Sacramento	_____
9. Cleveland	10:09 P.M.	Miami	_____
10. Dallas	4:24 P.M.	Atlanta	_____
11. Salt Lake City	4:19 A.M.	Minneapolis	_____
12. Boise	8:41 A.M.	San Diego	_____
13. Miami	7:12 P.M.	Tulsa	_____
14. Pittsburgh	6:41 P.M.	Denver	_____
15. Eugene	11:36 P.M.	St. Louis	_____

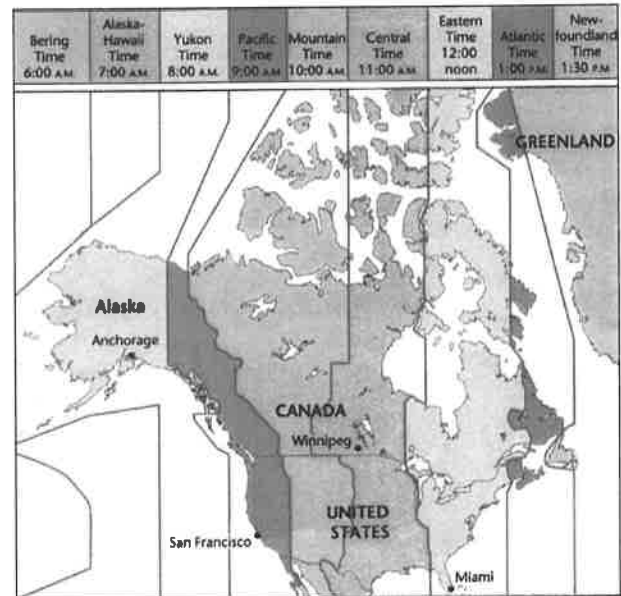


Time Zones

EXAMPLE

The map shows the nine time zones that North America falls into. If it is 9:15 A.M. in Tulsa, what time is it in Atlanta?

Solution: Atlanta is one time zone east of Tulsa. Therefore, the time in Atlanta is one hour later: 10:15 A.M.



Directions Find the time in the various North American time zones for the given time.

	Bering Time	Alaska-Hawaiian Time	Yukon Time	Pacific Standard Time	Mountain Standard Time	Central Standard Time	Eastern Standard Time
<i>Sample</i>	7:00 P.M.	8:00 P.M.	9:00 P.M.	10:00 P.M.	11:00 P.M.	12:00 midnight	1:00 A.M.
1.	1:00 A.M.						
2.	4:35 P.M.						
3.	9:50 P.M.						
4.	11:15 A.M.						
5.	5:44 A.M.						
6.	8:08 P.M.						
7.	12:23 P.M.						
8.	7:25 A.M.						
9.	5:38 A.M.						
10.	2:05 P.M.						

Zeros in the Quotient

EXAMPLE $0.01449 \div 0.23 =$

Write this:

$$\begin{array}{r} .063 \\ .23 \overline{)0.01449} \\ \underline{-138} \\ 69 \\ \underline{-69} \\ 0 \end{array}$$

EXAMPLE $2.9484 \div 4.2 =$

Write this:

$$\begin{array}{r} .702 \\ 4.2 \overline{)2.9484} \\ \underline{-294} \\ 84 \\ \underline{-84} \\ 0 \end{array}$$

Directions Divide.

1. $7.3 \overline{)29.273}$

6. $.19 \overline{).00247}$

11. $16 \overline{).624}$

16. $.44 \overline{)5.2844}$

2. $5.2 \overline{).3224}$

7. $.013 \overline{).06513}$

12. $.65 \overline{)3.939}$

17. $7.7 \overline{)7.7077}$

3. $1.5 \overline{).0345}$

8. $1.1 \overline{).0308}$

13. $.41 \overline{)13.1241}$

18. $.83 \overline{)1.6683}$

4. $.07 \overline{).1442}$

9. $.31 \overline{)34.131}$

14. $35 \overline{).3185}$

19. $.063 \overline{)5.0463}$

5. $6.3 \overline{)6.741}$

10. $.022 \overline{).26422}$

15. $5.7 \overline{)6.042}$

20. $.006 \overline{).06618}$

Directions Write these in standard form and divide.

21. $0.57252 \div 0.52 =$ _____

23. $0.00748 \div 0.68 =$ _____

22. $0.06307 \div 0.007 =$ _____

24. $0.26664 \div 1.32 =$ _____

