First Name: _____	**Last Name:** _____	**Grade:** _____
Teacher: _____	**Parent's email:** _____	

Time and Calendar

Kinder & First Grade: solve <u>at least</u> 3 problems.
Second & Third Grade: solve <u>at least</u> 7 problems.
Fourth Grade and above: solve <u>at least</u> 12 problems.

		Answer
1.	Dylan's baseball practice started at 5:00 p.m. and ended at 7:00 p.m. How many hours did the practice last?	*2 [hours]*
2.	Anjali has exactly one hour to get ready before the school bus picks her up at 8 a.m. Find the time when she has to get up in the morning.	*7 a.m.*
3.	These are the days of the week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. a. If yesterday was Saturday, what day is tomorrow? b. If tomorrow is Monday, what day is the day before yesterday?	*a. Monday* *b. Friday*
4.	 Alexander has a busy schedule on Friday. He has two back-to-back activities at the community center with no break. He takes a dance class and has a 30-minute piano lesson afterward. The clock on the left shows the time when Alexander's piano lesson ends. His dance class lasts 1 hour. What time did he start his dance class?	*3:30 p.m.*
5.	School starts at 9 a.m. How much time, in minutes, does Doan have if it is now a quarter before 8 a.m.? 60 minutes from a quarter before 8 a.m. is a quarter before 9 a.m. 15 minutes later it would be 9 a.m., which is the time school starts. So, Doan has 60 + 15 = 75 minutes 	*75 [minutes]*
6.	 Hayley woke up at 6:30 a.m. Her brother woke up 2 hours later. Her mom woke up 3 hours before her brother. What time did Hayley's mom wake up?	*5:30 a.m.*
7.	Drama rehearsal started at 9:30 a.m. 9:30 + 2 hours = 11:30 a.m.	*11:30 a.m.*
8.	a. If January 1st falls on Thursday, what day is January 31? Notice that Jan 1, 8, 15, 22, and 29 falls on Thu. So, Jan 30 falls on Fri and Jan 31 falls on Sat. b. If Halloween (October 31st) falls on Wednesday, what day is October 1? Halloween is on Oct 31, then Oct 24, 17, 10, and 3 falls on Wed too. So, Oct 2 falls on Tue, and Oct 1 falls on Mon. c. If April Fool's Day (April 1st) falls on Sunday, what day is March 21? March has 31 days. April Fool's Day is April 1st, Sunday. Thus, March 31st is Saturday, as well as March 24. Then March 24 – 3 = 21, Saturday – 3 = Wednesday	*a. Saturday* *b. Monday* *c. Wednesday*

9.	Since Max is twice as fast as Arjun, it took him (3 hours 20 min)/2 = 1 hour 40 minutes. 1 hour 40 minutes after 1:30 p.m. is 3:10 p.m.	*3:10 p.m.*
10.	Weekdays: 5 x 8 ½ hours = 42 ½ hours Weekend: 2 x 10 ½ = 21 hours. Total: 42 ½ + 21 = 63 ½ hours.	*63 ½ [hours]*
11.	9:10am (1st) 9:40am (2nd) 10:10am (3rd) 10:40am (4th) 11:10am (5th) 11:40am (6th) **12:10 pm (7th)** Or between the 1st and 7th train, there are 6 spaces. Each space is 30 minutes. 6×30 min = 3 hours. 9:10 a.m. + 3 hours = 12:10 p.m.	*12:10 p.m.*
12.	The actual time is 7:30 and it showed 4:50, it means 7:30 a.m. – 4:50 a.m. = 2:40 a.m., and this is the time when the power outage ended.	*2:40 a.m.*
13.	a. If two days ago was Friday, what day is 3 days from today? Today is Sun, and three days from today is Wed. b. If yesterday was Saturday, what day is 100 days from today? Today is Sun, 7 days from today is also Sunday, so will 14 days, 21 days, and 28 days from today. The closest multiple of 7 to 100 is 98. So, 98 from today is also Sunday. Therefore, 100 days from today is Tuesday.	*a. Wednesday* *b. Tuesday*
14.	We need to have their results in the same units. Example for 7 loops. Ashley runs 7 loops in 1 hour. Anika runs 7 loops in 7×8 = 56 minutes. Cynthia runs 7 loops in 8×8 = 64 minutes. Fastest to slowest: Anika, Ashley, Cynthia Example for 1 loop. Anika 8 minutes per 1 loop, Cynthia 9 minutes per 1 loop, Ashley 60/7 = 8 4/7 minutes per 1 loop. Fastest to slowest: Anika, Ashley, Cynthia	Anika, Ashley, Cynthia
15.	<table><tr><td>**Correct time**</td><td>4pm</td><td>5pm</td><td>6pm</td><td>7pm</td><td>8pm</td><td>9pm</td><td>…</td></tr><tr><td>**Incorrect time**</td><td>3:48pm</td><td>4:36 pm</td><td>5:24 pm</td><td>6:12 pm</td><td>7:00 pm</td><td>7:48 pm</td><td></td></tr></table>Notice that it takes 5 hours to be 1 hour behind. Think: how many hours will it take to be 12 hours behind? 5×12 = 60 hours	*60 [hours]*
16.	Time intervals: 2:59 to 2:00 → 60 times 1:59 to 1:00 → 1:29 through 1:20; and 1:52, 1:42, 1:32, 1:12, 1:02 → 15 times 0:59 to 0:00 → 0:29 through 0:20; and 0:52, 0:42, 0:32, 0:12, 0:02 → 15 times Total: 90 times	*90 [times]*
17.	Every hour the car travels an extra distance of 60 – 50 = 10 miles. The car covers extra 10 miles in 1h, so it will cover 2 miles in $\frac{1}{10} \cdot 2 = \frac{1}{5} hour = \frac{1}{5} \cdot 60 = 12\ minutes$	*12 [minutes]*
18.	Think about why all four digits change, because of the carry-over. It happens 3 times, when the hour ends on 9 and it shows 59 minutes or at 23:59. Three times: between 09:59 and 10:00, between 19:59 and 20:00, and between 23:59 and 00:00.	*3 [times]*

Solution is available on January 20, 2023
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