

Soroban Technology Lab

Dan Multiplication (7 min)

No.		Name	
Date		Score	

(Note) Round to 3 decimal places

1	$67,533 \times 8,261 =$
2	$9.5871 \times 3,618 =$
3	$0.007582 \times 840 =$
4	$9,785 \times 62,249 =$
5	$645 \times 6,541.14 =$
6	$0.0366 \times 488,403 =$
7	$9,926.5 \times 44,235 =$
8	$167,313 \times 2,419 =$
9	$4,816.8 \times 53,589 =$
10	$39,786 \times 95,811 =$
11	$1,314,504 \times 8,817 =$
12	$790,193 \times 4,190.6 =$
13	$360,839 \times 9,654.7 =$
14	$96,534 \times 0.008712 =$
15	$8,440 \times 2,611,743 =$

(Note) Round to the nearest integer

16	$2.388 \times 548.0975 =$
17	$6,887,591 \times 40.69 =$
18	$622,107 \times 37,286 =$
19	$56,908 \times 889,642 =$
20	$8.0709 \times 116.055 =$
21	$972,454 \times 328,576 =$
22	$52,609 \times 750.4436 =$
23	$402,250 \times 862,559 =$
24	$44.10172 \times 49,982 =$
25	$84,908.6 \times 239,095 =$
26	$20,394 \times 5,099,474 =$
27	$60,202.35 \times 79,083 =$
28	$741.8923 \times 0.03395 =$
29	$93,101 \times 6,200,795 =$
30	$24.3762 \times 217,189 =$

Soroban Technology Lab

Dan Division (7 min)

No.		Name	
Date		Score	

(Note) Round to 3 decimal places

1	$7,495.119 \div 5,020 =$
2	$8,052,804 \div 1,724 =$
3	$42,197,618 \div 502 =$
4	$828,466.2 \div 952.26 =$
5	$71.10849 \div 28.91 =$
6	$410,758.547 \div 545,343 =$
7	$106,848,870 \div 1,230 =$
8	$291,681,654 \div 6,194 =$
9	$48,791,441.6 \div 85,136 =$
10	$65,880.724 \div 78.7 =$
11	$1,204,918,112 \div 35,972 =$
12	$0.914497296 \div 0.510884 =$
13	$340.8357258 \div 7.4106 =$
14	$656,288,940 \div 35,410 =$
15	$3,706.619691 \div 6.304 =$

(Note) Round to the nearest integer

16	$7,549,855,040 \div 84,032 =$
17	$11,870 \div 0.28437 =$
18	$662,995 \div 85.4375 =$
19	$47,688,985 \div 855.89 =$
20	$829,720,448 \div 6,056 =$
21	$688,162 \div 0.3482 =$
22	$25,560 \div 0.703125 =$
23	$7,203,386 \div 780.4167 =$
24	$21,053,778,660 \div 4,609,980 =$
25	$10,057,764,311 \div 44,119 =$
26	$3,278,551,023 \div 459.8 =$
27	$24,402 \div 0.03596 =$
28	$9,042,923,232 \div 68,768 =$
29	$47,727,257,512 \div 593,062 =$
30	$1,903,203 \div 33.0508 =$

Soroban Technology Lab

Dan Sums (7 min)

No.		Name	
Date		Score	

1	2	3	4	5	6	7
708	825,074	647	908	32,904	95,370	453,718
387,564	-34,210	4,069	-23,871	289,651	49,285	81,209
501,627	68,749	873,612	734,590	804,329	38,967	-9,057
432	390,876	9,401	862	16,735	412,079	82,634
1,756	-2,561	852,967	456	240	8,506	136,528
980	1,902	430	-3,197	2,583	3,241	71,094
96,213	748	753,028	9,035	916,704	961,430	2,570
87,504	253	96,531	24,760	170	5,782	8,369
4,071	904	78,196	-815,623	398	71,928	-960,425
356,982	-678,513	240	487,901	5,462	564,309	-43,187

8	9	10	11	12	13	14
1,732	276,890	4,016	4,085,796	904,631	4,098	679,025
358,904	14,758	23,897	847,530	6,730,412	8,539,740	9,251,380
29,017	39,607	31,274	51,073	74,951	-1,750,426	9,071
1,845	7,218	106,895	9,426	3,128,506	7,268	7,869
18,453	3,845	-758,031	7,381	1,430	2,963,107	541,923
93,027	671,290	-96,524	905,168	9,685	345,819	4,367
5,936	35,027	41,607	4,712	3,274	-801,297	95,802
640,872	869,154	-8,923	69,285	591,827	-38,465	20,581
94,210	8,976	7,280	4,370,859	68,073	2,039	3,094,716
513,768	42,013	943,156	7,421,360	1,692,504	56,174	6,583,472

15	16	17	18	19	20
5,624,809	4,269	731,028	56,082,934	45,673	147,623
-1,940,236	57,380	5,964	29,715	96,758,104	209,358
53,024	624,875	7,435	486,231	69,301,258	4,971
1,576	17,302,946	-86,210	20,859	4,298,570	5,806
2,187,409	4,935,018	92,540,836	96,743,081	420,315	30,465
3,568	3,051,749	-3,129,570	7,503	7,165,938	-17,892
894,753	629,418	984,761	2,068,914	20,784	-85,976,043
-240,691	6,035	-63,870,925	4,371,526	9,631	52,193,486
8,912	74,905,682	8,419,673	530,469	687,029	5,742,610
-75,630	12,837	45,102	1,872	3,145	-7,280,391

21	22	23	24	25
130,475	472,960,381	4,329,760	7,192,430	5,810
41,792	7,043,892	2,319	38,604,172	1,406
798,514,203	609,718,425	850,197	36,281	-24,798,365
70,651,938	2,067	-820,475,936	40,915	-695,072,831
918,067,324	86,235,194	38,024,169	861,320	41,623,098
42,680,537	1,275	-18,573	90,735,481	-17,985
23,096	50,348	471,609,285	921,574,806	64,032
5,784	37,618,409	-39,214,506	815,249,367	4,957,680
9,513	95,726	3,827	7,049	936,721,508
1,874,620	283,014	40,695	2,536	245,173

26	27	28	29	30
307,685,421	82,406,971	2,197	76,805	635,718,240
104,287	-21,357,809	153,897,604	6,740,958	-85,091
46,192	-32,146	46,253,170	87,014,562	-84,061,539
8,075	3,275,908	85,604,291	139,726	725,904
4,921	14,056	782,309	578,014,293	7,315
50,736	640,152,879	17,943	30,576,941	8,162
578,193,460	978,340	9,645,082	87,412	68,572,940
91,827,306	9,518	684,723,510	3,296	1,906,382
18,246,950	5,632	9,061	705,692,841	43,705
1,378,245	-261,803,497	28,357	3,085	-267,514,893

Soroban Technology Lab

Dan Receipts (7 min)

No.		Name	
Date		Score	

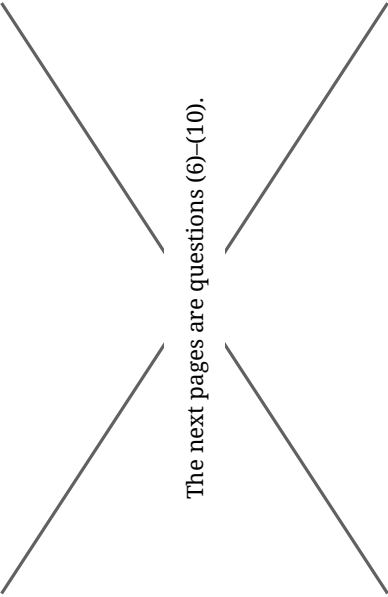
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Dan Receipts (7 min)		
	²	¹
(1)	<u>80,537</u>	(1) <u>6,325</u>
(2)	<u>2,598</u>	(2) <u>9 / 7,652</u>
(3)	<u>7,425</u>	(3) <u>6,197</u>
(4)	<u>527,468</u>	(4) <u>8,639</u>
(5)	<u>76,258</u>	(5) <u>9,47 /</u>
	³	
(1)	<u>8 / 4,269</u>	
(2)	<u>20,3 / 7</u>	
(3)	<u>259,387</u>	
(4)	<u>/ 4,759</u>	
(5)	<u>24,387</u>	

Dan Receipts (7 min)

6		4	
(1)	<u>56,874</u>	(1)	<u>6,930</u>
(2)	<u>1,807</u>	(2)	<u>751,034</u>
(3)	<u>47,601</u>	(3)	<u>394,071</u>
(4)	<u>802,314</u>	(4)	<u>5,398</u>
(5)	<u>3,450</u>	(5)	<u>603,215</u>
7		5	
(1)	<u>401,769</u>	(1)	<u>493,128</u>
(2)	<u>8,645</u>	(2)	<u>806,793</u>
(3)	<u>325,860</u>	(3)	<u>8,169</u>
(4)	<u>497,502</u>	(4)	<u>1,650</u>
(5)	<u>1,593</u>	(5)	<u>781,026</u>

9		8
(6)	<u>5,346</u>	(1) <u>2,107</u>
(7)	<u>79,108</u>	(2) <u>69,382</u>
(8)	<u>876,941</u>	(3) <u>50,978</u>
(9)	<u>419</u>	(4) <u>45,073</u>
(10)	<u>140</u>	(5) <u>148,906</u>
10		
(6)	<u>204,861</u>	 The next pages are questions (6)–(10).
(7)	<u>45,062</u>	
(8)	<u>7,594</u>	
(9)	<u>892</u>	
(10)	<u>4,687</u>	

Dan Receipts (7 min)

13		11	
(6)	<u>49,532</u>	(6)	<u>758,904</u>
(7)	<u>1,738</u>	(7)	<u>627</u>
(8)	<u>5,340</u>	(8)	<u>82,067</u>
(9)	<u>7,421</u>	(9)	<u>70,631</u>
(10)	<u>23,047</u>	(10)	<u>109,258</u>
14		12	
(6)	<u>723</u>	(6)	<u>20,813</u>
(7)	<u>806,543</u>	(7)	<u>162</u>
(8)	<u>702,965</u>	(8)	<u>30,578</u>
(9)	<u>498,650</u>	(9)	<u>28,703</u>
(10)	<u>7,359</u>	(10)	<u>614</u>

Dan Receipts (7 min)

17		15	
(6)	<u>4,089</u>	(6)	<u>290</u>
(7)	<u>8,153</u>	(7)	<u>473,920</u>
(8)	<u>413</u>	(8)	<u>86,419</u>
(9)	<u>1,657</u>	(9)	<u>301,425</u>
(10)	<u>83,596</u>	(10)	<u>783,495</u>
18		16	
(6)	<u>96,158</u>	(6)	<u>3,176</u>
(7)	<u>9,537</u>	(7)	<u>30,714</u>
(8)	<u>901</u>	(8)	<u>2,531</u>
(9)	<u>7,863</u>	(9)	<u>56,038</u>
(10)	<u>6,907</u>	(10)	<u>20,689</u>

20		The next pages are questions (11)–(15).
(11)	190	
(12)	684	
(13)	3,40	
(14)	49,751	
(15)	5,947,138	
21		19
(11)	4,381	7,451
(12)	4,807,231	6,074,315
(13)	687	40,791
(14)	2,67,385	8,594
(15)	384	6,078,214

Dan Receipts (7 min)

24		22	
(11)	<u>267,58 /</u>	(11)	<u>6,207,495</u>
(12)	<u>29, / 38</u>	(12)	<u>5 / 7</u>
(13)	<u>703,29 /</u>	(13)	<u>49,208</u>
(14)	<u>520, / 83</u>	(14)	<u>35,407</u>
(15)	<u>/ 26</u>	(15)	<u>196,508</u>
25		23	
(11)	<u>28,975</u>	(11)	<u>91,762</u>
(12)	<u>358,940</u>	(12)	<u>96,371</u>
(13)	<u>4,289,537</u>	(13)	<u>2,076,135</u>
(14)	<u>867</u>	(14)	<u>293,046</u>
(15)	<u>7,534</u>	(15)	<u>310,492</u>

28 (11) <u>806</u> (12) <u>/ 50,692</u> (13) <u>6,5 / 7</u> (14) <u>6,972</u> (15) <u>6,073</u>	26 (11) <u>210,438</u> (12) <u>7,485</u> (13) <u>5 / 4,386</u> (14) <u>190</u> (15) <u>65,290</u>
The next pages are questions (16)–(20).	27 (11) <u>7,096,384</u> (12) <u>6,209</u> (13) <u>675</u> (14) <u>7,012,386</u> (15) <u>92,538</u>

Dan Receipts (7 min)

31		29	
(16)	<u>2,705,693</u>	(16)	<u>85,067</u>
(17)	<u>1,589,064</u>	(17)	<u>9,015,428</u>
(18)	<u>2,347</u>	(18)	<u>5,341,768</u>
(19)	<u>7,089,124</u>	(19)	<u>2,165</u>
(20)	<u>6,039</u>	(20)	<u>4,651,890</u>
32		30	
(16)	<u>6,139</u>	(16)	<u>219,406</u>
(17)	<u>3,208,175</u>	(17)	<u>8,370</u>
(18)	<u>896,432</u>	(18)	<u>208,536</u>
(19)	<u>58,471</u>	(19)	<u>8,509</u>
(20)	<u>20,618</u>	(20)	<u>9,368,217</u>

Dan Receipts (7 min)

35		33	
(16)	<u>4,029,571</u>	(16)	<u>4,210</u>
(17)	<u>973,648</u>	(17)	<u>21,436</u>
(18)	<u>3,415,970</u>	(18)	<u>3,581</u>
(19)	<u>1,603,728</u>	(19)	<u>93,085</u>
(20)	<u>4,095,186</u>	(20)	<u>956,143</u>
36		34	
(16)	<u>518,934</u>	(16)	<u>46,827</u>
(17)	<u>280,953</u>	(17)	<u>6,129</u>
(18)	<u>70,618</u>	(18)	<u>76,409</u>
(19)	<u>276,381</u>	(19)	<u>146,859</u>
(20)	<u>407,321</u>	(20)	<u>7,325</u>

Dan Receipts (7 min)

37

(16)

(17)

(18)

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38

(16)

(17)

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(20)

The next pages are questions (21)–(25).

39

(21)

(22)

(23)

(24)

(25)

Dan Receipts (7 min)

42		40	
(21)	<u>96,205,814</u>	(21)	<u>6,210,735</u>
(22)	<u>7,068,921</u>	(22)	<u>3,076</u>
(23)	<u>14,320,785</u>	(23)	<u>705,321</u>
(24)	<u>246,798</u>	(24)	<u>2,469</u>
(25)	<u>607,123</u>	(25)	<u>28,957,613</u>
43		41	
(21)	<u>12,736,508</u>	(21)	<u>2,093</u>
(22)	<u>50,817,396</u>	(22)	<u>591,864</u>
(23)	<u>2,839</u>	(23)	<u>54,276</u>
(24)	<u>150,637</u>	(24)	<u>81,035</u>
(25)	<u>1,534,867</u>	(25)	<u>18,405</u>

Dan Receipts (7 min)

46		44	
(21)	<u>358,174</u>	(21)	<u>69,215</u>
(22)	<u>7,245</u>	(22)	<u>285,704</u>
(23)	<u>5,691,047</u>	(23)	<u>798,140</u>
(24)	<u>70,482,635</u>	(24)	<u>7,815,943</u>
(25)	<u>5,942</u>	(25)	<u>9,765,042</u>
47		45	
(21)	<u>3,045,817</u>	(21)	<u>674,928</u>
(22)	<u>5,864,193</u>	(22)	<u>41,629</u>
(23)	<u>2,359</u>	(23)	<u>49,386</u>
(24)	<u>16,324</u>	(24)	<u>8,710</u>
(25)	<u>93,860</u>	(25)	<u>87,049,153</u>

49		48
(26)	<u>3,872,915</u>	(21) <u>79,460</u>
(27)	<u>54,839,271</u>	(22) <u>85,420</u>
(28)	<u>40,193,726</u>	(23) <u>80,319,674</u>
(29)	<u>1,025,764</u>	(24) <u>2,405,639</u>
(30)	<u>57,043,962</u>	(25) <u>9,638</u>
50		
(26)	<u>618,590</u>	The next pages are questions (26)–(30).
(27)	<u>78,416</u>	
(28)	<u>7,249,053</u>	
(29)	<u>9,620</u>	
(30)	<u>3,851,690</u>	

Dan Receipts (7 min)

53		51	
(26)	<u>46,902</u>	(26)	<u>84,271</u>
(27)	<u>3,049</u>	(27)	<u>461,520</u>
(28)	<u>908,576</u>	(28)	<u>328,564</u>
(29)	<u>472,381</u>	(29)	<u>67,235,049</u>
(30)	<u>351,842</u>	(30)	<u>5,128</u>
54		52	
(26)	<u>60,958,274</u>	(26)	<u>51,432,769</u>
(27)	<u>5,249,187</u>	(27)	<u>10,236</u>
(28)	<u>7,180</u>	(28)	<u>7,945</u>
(29)	<u>32,508,917</u>	(29)	<u>319,864</u>
(30)	<u>62,378</u>	(30)	<u>9,107,485</u>

Dan Receipts (7 min)

57		55	
(26)	<u>3,094</u>	(26)	<u>3,618</u>
(27)	<u>8,069,753</u>	(27)	<u>538,246</u>
(28)	<u>31,952</u>	(28)	<u>49,120,368</u>
(29)	<u>8,630,751</u>	(29)	<u>2,869</u>
(30)	<u>80,419,526</u>	(30)	<u>8,709</u>
58		56	
(26)	<u>780,341</u>	(26)	<u>7,201,356</u>
(27)	<u>7,902</u>	(27)	<u>62,703,198</u>
(28)	<u>52,681</u>	(28)	<u>4,016,735</u>
(29)	<u>84,206</u>	(29)	<u>63,915</u>
(30)	<u>67,341</u>	(30)	<u>280,467</u>

Soroban Technology Lab

Dan Mental Calculation (3 min)

No.		Name	
Date		Score	

(A) Mental Sums

1	2	3	4	5	6	7
6,854	9,751	1,027	8,216	7,306	4,079	650
179	-402	813	-5,379	893	3,780	2,978
432	3,189	459	924	154	-139	260
2,763	865	167	-165	6,207	-240	5,739
815	304	8,045	874	9,640	6,951	473
904	-927	923	320	795	708	6,025
				3,821	-4,532	1,948

8	9	10	11	12	13	14
5,806	2,743	8,452	3,284	4,359	36,510	580
3,017	9,481	-6,109	21,856	-614	387	65,172
792	806	627	439	8,247	9,248	9,765
2,984	5,041	9,412	5,712	9,563	94,603	3,154
6,135	3,967	-8,037	3,458	-20,984	517	298
503	279	205	679	675	893	-4,820
6,974	1,032	-3,579	85,260	-1,237	7,605	17,695
2,180	8,564	1,648	702	93,408	4,152	-5,063
			1,934	165	81,024	-24,839
					3,976	701

(B) Mental Multiplication

(Note) Round down to the nearest integer

15	$92 \times 38 =$
16	$79 \times 86 =$
17	$65 \times 60.3 =$
18	$648 \times 93 =$
19	$0.905 \times 652 =$
20	$435 \times 198 =$
21	$7,139 \times 0.873 =$
22	$3,947 \times 4,296 =$

(C) Mental Division

(Note) Round down to the nearest integer

23	$1,326 \div 39 =$
24	$3,944 \div 58 =$
25	$28,512 \div 54 =$
26	$11.5 \div 0.321 =$
27	$348,679 \div 431 =$
28	$3,431 \div 7.52 =$
29	$1,245,250 \div 425 =$
30	$43,053 \div 5.967 =$

Soroban Technology Lab

Dan Roots (7 min)

No.		Name	
Date		Score	

Square Root

(Note) Round to the place shown at the right

1	$\sqrt{16,024,009} =$	Integer
2	$\sqrt{63.17706256} =$	4 decimals
3	$\sqrt{5,821.69} =$	1 decimals
4	$\sqrt{236,196} =$	Integer
5	$\sqrt{57,153,600} =$	Integer
6	$\sqrt{225,625} =$	Integer
7	$\sqrt{39,204} =$	Integer
8	$\sqrt{459.2449} =$	2 decimals
9	$\sqrt{157,609} =$	Integer
10	$\sqrt{82.773604} =$	3 decimals
11	$\sqrt{76,580,001} =$	Integer
12	$\sqrt{1,784,645,944} =$	Integer
13	$\sqrt{83,656.0671} =$	2 decimals
14	$\sqrt{0.2262334096} =$	5 decimals
15	$\sqrt{1,518.841488} =$	3 decimals
16	$\sqrt{71.7261448} =$	4 decimals
17	$\sqrt{96,298,894.24} =$	1 decimals
18	$\sqrt{0.121138711} =$	5 decimals
19	$\sqrt{873,379,809} =$	Integer
20	$\sqrt{3,060,302,400} =$	Integer

Cube Root

(Note) Round to the place shown at the right

21	$\sqrt[3]{3,581,577} =$	Integer
22	$\sqrt[3]{788,889,024} =$	Integer
23	$\sqrt[3]{16,895.457496} =$	2 decimals
24	$\sqrt[3]{0.169020650889} =$	4 decimals
25	$\sqrt[3]{352,693.88} =$	1 decimals
26	$\sqrt[3]{0.001764514} =$	3 decimals
27	$\sqrt[3]{0.418071371} =$	3 decimals
28	$\sqrt[3]{929,999.978081} =$	2 decimals
29	$\sqrt[3]{24,137,569,000} =$	Integer
30	$\sqrt[3]{20,555.276} =$	1 decimals

Soroban Technology Lab

Dan Applied Calculation (10 min)

No.		Name	
Date		Score	

- (1) Find the missing number.
 $640,921 + 109,440 \div 160 \times 50 = \square$
 Answer

- (9) What is the area, in m^2 , of a trapezium whose parallel sides are 23m and 67m and whose height is 67m?
 Answer

- (2) Find the missing number.
 $\square \times 830 + 71,608 = 1,377,198$
 Answer

- (10) An item bought for ¥453,100 was given a list price with a markup of 40%, then sold at 15% off the list price. What was the selling price?
 Answer

Fill in the blanks in the table below. The consumption tax rate is 10%. (Round the selling price and the price with tax down to the nearest yen.)

List price (yen)	Discount rate (%)	Selling price (yen)	Price with tax (yen)
534,160	32		(3)
(4)	35		589,160
584,000	(5)		449,680
462,780	40	(6)	

- (11) An item was given a list price with a profit of 24% on the cost, then sold at 26% off the list price, giving a loss of ¥12,360. What was the cost of the item?
 Answer

- (12) Flour and sugar are mixed in the ratio 20:12 to make cakes. To make 672g of it, how many g of sugar are needed?
 Answer

- (7) This month a product had sales of ¥413,500, of which 78.2% were cash sales. How much were the cash sales? (Round to the nearest yen.)
 Answer

- (13) An item listed at ¥50,800 was sold at 50% off the list price. What is the total price including consumption tax? The consumption tax rate is 10%. (Round the tax down to the nearest yen.)
 Answer

- (8) 62.3m/s is how many kilometres per hour? (Round the kilometres to one decimal place.)
 Answer

- (14) At station A, trains leave every 6 minutes and buses every 20 minutes. A train and a bus left at 9 a.m. At what time will a train and a bus next leave together?
 Answer

Dan Applied Calculation (10 min)

- (15) 21,000 shares were bought at ¥254 per share. What is the total payment? A commission of 0.900% of the gross amount plus ¥2,500 is paid.

Answer

- (16) 162 items at ¥862 each were bought. Paying in dollars, how many dollars and cents is it? Take $\$/ = ¥98$. (Round up to the nearest cent.)

Answer

- (17) ¥710,000 is borrowed for 89 days. At 3.9% simple interest per year, how much is the interest? (Round to the nearest yen.)

Answer

- (18) ¥270,000 is borrowed for 74 days at 3.1% simple interest per year. How much is repaid in principal and interest? (Round the interest to the nearest yen.)

Answer

- (19) ¥769,000 is borrowed for 2 years 2 months at 9.4% simple interest per year. How much is repaid in principal and interest? (Round the interest to the nearest yen.)

Answer

- (20) A 2.3% coupon bond with a face value of ¥520,000 is bought at a market price of ¥103.20. What is the amount paid? The accrued interest covers 97 days. (Round the accrued interest down to the nearest yen.)

Answer

- (21) Product A's output was 28,700 units last year and 25,130 units this year. What percentage of last year's output is this year's? (Round the percentage to one decimal place.)

Answer

- (22) ¥2,300,000 is borrowed for 5 years at 7% per year, compounded semiannually. What is the maturity value? (Round to the nearest yen.)

From the Compound Amount table

7%, 5 periods 1.40255173

3.5%, 10 periods 1.41059876

Answer

- (23) A debt is repaid by ¥570,000 at the end of each year for 7 years. How much would settle it in one payment now? Interest is 3.5% per year, compounded annually. (Round to the nearest yen.)

From the Present Value of an Annuity table

3.5%, 6 periods 5.32855302

3.5%, 7 periods 6.11454398

3.5%, 8 periods 6.87395554

Answer

Dan Applied Calculation (10 min)

- (24) A fixed asset costing ¥538,000, with a useful life of 9 years, is depreciated by the declining-balance method. What is the book value at the start of period 4? (The accounts are closed once a year and a residual book value of ¥1 is kept. Round each period's depreciation limit down to the nearest yen.)

From the 200% declining-balance depreciation rate table
(acquired on or after 1 April 2012)
Useful life 9 years 0.105

Answer

- (25) ¥810,000 is borrowed for 15 years at 6.5% per year, compounded annually. What is the interest due at maturity? (Round to the nearest yen.)

From the Compound Amount table
6.5%, 15 periods 2.57184101
From the Present Value table
6.5%, 15 periods 0.38882652

Answer

- (26) A debt of ¥6,900,000 due in 2 years is discounted at 4% per year, compounded semiannually. How much is it if paid now? (Round up to the nearest ¥100.)

From the Present Value table
4%, 2 periods 0.92455621
2%, 4 periods 0.92384543

Answer

- (27) ¥2,974,000 is borrowed at 3.5% per year, compounded annually, and repaid in equal instalments at the end of each year over 5 years. What is the annuity payment for each period? (Round to the nearest yen.)

From the Annuity Payment table
3.5%, 4 periods 0.27225114
3.5%, 5 periods 0.22148137

Answer

- (28) ¥548,000 is deposited for 2 years 9 months at 8% per year, compounded annually. How much is the interest? The fractional period earns simple interest, and amounts under ¥100 earn no interest in any period.

Answer

- (29) ¥930,000 is paid at the start of each year for 10 years. What is the amount of the annuity? Interest is 6.5% per year, compounded annually. (Round to the nearest yen.)

From the Amount of an Annuity table
6.5%, 9 periods 11.73185215
6.5%, 10 periods 13.49442254
6.5%, 11 periods 15.37156001

Answer

- (30) A fixed asset costing ¥862,000, with a useful life of 29 years, is depreciated by the straight-line method. What is the accumulated depreciation at the end of period 17? (The accounts are closed once a year and a residual book value of ¥1 is kept. Round each period's depreciation limit down to the nearest yen.)

From the straight-line depreciation rate table (acquired on or after 1 April 2007)
Useful life 29 years 0.035

Answer

Answers Dan

Multiplication

1	<u>557,890,113</u>	11	<u>11,589,981,768</u>	21	<u>319,525,045,504</u>
2	<u>34,686,128</u>	12	<u>3,311,382,785.8</u>	22	<u>39,480,087</u>
3	<u>6,369</u>	13	<u>3,483,792,293.3</u>	23	<u>346,964,357,750</u>
4	<u>609,106,465</u>	14	<u>841.004</u>	24	<u>2,204,292</u>
5	<u>4,219,035.3</u>	15	<u>22,043,110,920</u>	25	<u>20,301,221,717</u>
6	<u>17,875.550</u>	16	<u>1,309</u>	26	<u>103,998,672,756</u>
7	<u>439,098,727.5</u>	17	<u>280,256,078</u>	27	<u>4,760,982,445</u>
8	<u>404,730,147</u>	18	<u>23,195,881,602</u>	28	<u>25</u>
9	<u>258,127,495.2</u>	19	<u>50,627,746,936</u>	29	<u>577,300,215,295</u>
10	<u>3,811,936,446</u>	20	<u>937</u>	30	<u>5,294,243</u>

Division

1	<u>1.493</u>	7	<u>86,869</u>	13	<u>45.993</u>	19	<u>55,719</u>	25	<u>227,969</u>
2	<u>4,671</u>	8	<u>47,091</u>	14	<u>18,534</u>	20	<u>137,008</u>	26	<u>7,130,385</u>
3	<u>84,059</u>	9	<u>573.1</u>	15	<u>587.979</u>	21	<u>1,976,341</u>	27	<u>678,587</u>
4	<u>870</u>	10	<u>837.112</u>	16	<u>89,845</u>	22	<u>36,352</u>	28	<u>131,499</u>
5	<u>2.460</u>	11	<u>33,496</u>	17	<u>41,741</u>	23	<u>9,230</u>	29	<u>80,476</u>
6	<u>0.753</u>	12	<u>1.790</u>	18	<u>7,760</u>	24	<u>4,567</u>	30	<u>57,584</u>

Sums

1	<u>1,437,837</u>	9	<u>1,968,778</u>	17	<u>35,648,094</u>	25	<u>263,729,526</u>
2	<u>573,222</u>	10	<u>294,647</u>	18	<u>160,343,104</u>	26	<u>997,545,593</u>
3	<u>2,669,121</u>	11	<u>17,772,590</u>	19	<u>178,710,447</u>	27	<u>443,649,852</u>
4	<u>415,821</u>	12	<u>13,205,293</u>	20	<u>-34,940,007</u>	28	<u>980,963,524</u>
5	<u>2,069,176</u>	13	<u>9,328,057</u>	21	<u>1,831,999,282</u>	29	<u>1,408,349,919</u>
6	<u>2,210,897</u>	14	<u>20,288,206</u>	22	<u>1,214,008,731</u>	30	<u>355,321,125</u>
7	<u>-176,547</u>	15	<u>6,517,494</u>	23	<u>-344,848,763</u>		
8	<u>1,757,764</u>	16	<u>101,530,209</u>	24	<u>1,874,304,357</u>		

Receipts

1	<u>1,861,939</u>	9	<u>973,699</u>	17	<u>15,123,768</u>	25	<u>128,182,425</u>
2	<u>2,578,228</u>	10	<u>1,039,792</u>	18	<u>15,036,548</u>	26	<u>125,002,130</u>
3	<u>1,099,688</u>	11	<u>13,915,463</u>	19	<u>13,028,411</u>	27	<u>131,960,778</u>
4	<u>1,902,803</u>	12	<u>11,531,582</u>	20	<u>19,556,030</u>	28	<u>101,916,780</u>
5	<u>1,648,306</u>	13	<u>7,684,367</u>	21	<u>119,386,603</u>	29	<u>110,353,336</u>
6	<u>1,143,892</u>	14	<u>10,094,781</u>	22	<u>117,574,812</u>	30	<u>151,198,528</u>
7	<u>1,455,564</u>	15	<u>12,704,297</u>	23	<u>106,960,699</u>		
8	<u>1,795,749</u>	16	<u>15,970,166</u>	24	<u>96,477,498</u>		

Mental Calculation

1	<u>11,947</u>	7	<u>18,073</u>	13	<u>238,915</u>	19	<u>590</u>	25	<u>528</u>
2	<u>12,780</u>	8	<u>28,391</u>	14	<u>62,643</u>	20	<u>86,130</u>	26	<u>35</u>
3	<u>11,434</u>	9	<u>31,913</u>	15	<u>3,496</u>	21	<u>6,232</u>	27	<u>809</u>
4	<u>4,790</u>	10	<u>2,619</u>	16	<u>6,794</u>	22	<u>16,956,312</u>	28	<u>456</u>
5	<u>28,816</u>	11	<u>123,324</u>	17	<u>3,919</u>	23	<u>34</u>	29	<u>2,930</u>
6	<u>10,607</u>	12	<u>93,582</u>	18	<u>60,264</u>	24	<u>68</u>	30	<u>7,215</u>

Answers Dan

Roots

1	4,003	7	198	13	289.23	19	29,553	25	70.7
2	7.9484	8	21.43	14	0.47564	20	55,320	26	0.121
3	76.3	9	397	15	38.972	21	153	27	0.748
4	486	10	9.098	16	8.4691	22	924	28	97.61
5	7,560	11	8,751	17	9,813.2	23	25.66	29	2,890
6	475	12	42,245	18	0.34805	24	0.5529	30	27.4

Applied Calculation

1	675,121	11	¥150,000	21	87.6%
2	1,573	12	252g	22	¥3,244,377
3	399,550	13	¥27,940	23	¥3,485,290
4	824,000	14	10:00 a.m.	24	¥385,703
5	30	15	¥5,384,506	25	¥1,273,191
6	277,668	16	\$1,424.94	26	¥6,374,600
7	¥323,357	17	¥6,752	27	¥658,686
8	224.3km/h	18	¥271,697	28	¥129,530
9	2,814 m ²	19	¥925,620	29	¥13,365,551
10	¥539,189	20	¥539,818	30	¥512,890