For this exam you will not be allowed to use a calculator.

1. Add: $967 + 7560 + 92 + 20642$  \[\text{Ans: 29,261}\]
2. Add: $569 + 76 + 32,960 + 54$  \[\text{Ans: 33,669}\]
3. Add: $4598 + 34000 + 43$  \[\text{Ans: 38,641}\]

4. Subtract 8924 from 9172  \[\text{Ans: 248}\]
5. 78,943 - 45,685  \[\text{Ans: 33,258}\]
6. Subtract 6596 from 9975  \[\text{Ans: 33,879}\]

7. Multiply: 482 x 23  \[\text{Ans: 11,086}\]
8. Multiply: 4578 x 153  \[\text{Ans: 700,434}\]
9. Multiply: 386 x 73  \[\text{Ans: 28,178}\]

10. Find the quotient and remainder of 68130 divided by 21  \[\text{Ans: 3270 R 30}\]
11. Find the quotient and remainder of 3285 divided by 32  \[\text{Ans: 102 R 21}\]
12. Find the quotient and remainder of 38,951 divided by 163  \[\text{Ans: 238 R 157}\]

13. Evaluate each of the following expressions:

   a) $(9-2)^2 = (7)^2 = \boxed{49}$
   b) $0/9 = \boxed{0}$
   c) $7/0$ = \boxed{undefined}
   d) $\mid-3\mid = \boxed{3}$
   e) Opposite of $-87 = \boxed{87}$
   f) $1^{\boxed{172}}$
g) opposite of 43 = $-43$

h) $0/0 = \text{undefined}$

i) $-12/0 = \text{undefined}$

j) $|-4 - 5| = |-9| = 9$

k) $(1)^5 = -1$

l) $-(4 - 6)^3 = -(-2)^3 = -(-8) = 8$

m) $1 - (-2) + 7 - (+4) = 10 - 4 = 6$

n) $4 - 2(3 - 5)^3 + 4(3 - 2) = 4 + 16 + 20 = 40$

o) $-7 + 5 = -2$

p) $-6 - 8 + 3 = -14 + 3 = -11$

q) $12 - 5 = 12 + 5 = 17$

r) $6 + (-4) - (+3) = 6 - 4 - 3 = 6 - 7 = -1$

s) $-5 - (-8) = -5 + 8 = 3$

t) $(2)^4 = (-2x - 2)(-2x - 2) = 16$

u) $-2^4 = -(2x2x2x2) = -16$

v) $-(4-7)^3 = -(-3)^3 = -(-27) = 27$
14. List the order of operations for real numbers. Be specific! (PEMDAS)

1. parentheses
2. exponents
3. multiplication & division \((L \to R)\)
4. add & subtract \((L \to R)\)

15. Evaluate each of the following expressions:

a) \(9 - \frac{4}{2 + 3}\)
   \[9 - 2 + 3\]
   \[= 10\]

b) \((5)^2 - 8 + 6^2 - 3\)
   \[25 - 8 + 36 - 3\]
   \[= 50\]

c) \(4 - 3(4+1) + 2^4 + (6-5)^3 + 1^{26}\)
   \[4 - 3(5) + 16 + (1)^3 + 1^{26}\]
   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]

   \[= 7\]
f) \(6 - (9 - 5)^2 + 3(2 - 7)^2 - 7 - (\pm 6)\)
\(6 - (4)^2 + 3(-5)^2 - 7 - (\pm 6)\)
\(6 - 16 + 3(25) - 7 - 6\)
\(6 - 16 + 75 - 7 - 6\)
\(81 - 29\)

16. The Long family purchased a boat for $25,000. After making several improvements at a total cost of $5,500, they sold the boat for $50,000. How much profit did they make?

- Cost: $25,000
- Improvements: $5,500
- Selling price: $50,000

<table>
<thead>
<tr>
<th>Cost</th>
<th>Improvements</th>
<th>Selling price</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000</td>
<td>$5,500</td>
<td>$50,000</td>
</tr>
<tr>
<td>$30,500</td>
<td>$19,500</td>
<td></td>
</tr>
</tbody>
</table>

17. Marcia had $59 in her bank account. She withdrew $43. She then deposited $140. The next day, she withdrew another $62. What is Marcia's new bank account balance?

\[59 - 43 + 140 - 62\]
\[199 - 105\]
\[\$94\]

18. John purchased 15 notebooks at $11 each and 8 mechanical pencils at $4 each. What is his total purchase price?

\[15(\$11) + 8(\$4)\]
\[165 + 32\]
\[\$197\]