

BRONX COMMUNITY COLLEGE
of the City University of New York
DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE

NAME: Solutions

E. Antonakos The actual test will be on Thursday, September 11.

Test 1 Sample

9/9/14
MTH 05 D34

There are twenty questions, each worth 5 points. SHOW ALL WORK to receive full credit.

1. $337 + 292 - 621 =$ 8

$$\begin{array}{r} 337 \\ + 292 \\ \hline 629 \\ - 621 \\ \hline 8 \end{array}$$

2. $-48700 + 2647 =$ -46,053

$$\begin{array}{r} 48700 \\ - 2647 \\ \hline 46053 \end{array}$$

$$\begin{array}{r} 32 \\ \times 9 \\ \hline 288 \end{array}$$

7. $\sqrt{(-948 \div 32))} =$ -29.20

$$\begin{array}{r} 32 \overline{) 948} \\ - 64 \downarrow \\ \hline 308 \\ - 288 \\ \hline 20 \end{array}$$

8. $2^4 + 3^3 - 4^2 + 5^1 - 6^0 =$ 31

$$16 + 27 - 16 + 5 - 1 = 31$$

9. $4 \times 10^2 - |7 - 15| =$ 392

$$4 \times 10^2 - |-8| = 400 - 8 = 392$$

10. Between which two whole numbers does $\sqrt{55}$ lay? bet 7 & 8

$$49 < 55 < 64$$

so...

$$\sqrt{49} < \sqrt{55} < \sqrt{64}$$

$$7 < \sqrt{55} < 8$$

3. $214 \times 67 =$ 14,338

$$\begin{array}{r} 214 \\ \times 67 \\ \hline 1498 \\ + 12840 \\ \hline 14338 \end{array}$$

4. $-321 \cdot 404 =$ -129,684

$$\begin{array}{r} 321 \\ \times 404 \\ \hline 1284 \\ + 128400 \\ \hline 129684 \end{array}$$

11. $50 - 6(7 - 2) =$ 20

$$50 - 6(5) = 50 - 30 = 20$$

12. $5 \cdot 4 - 6 \div 2 + \sqrt{81} =$ 26

$$20 - 3 + 9 = 17 + 9 = 26$$

5. $1414 \div 202 =$ 7

$$\begin{array}{r} 202 \overline{) 1414} \\ 1414 \\ \hline 0 \end{array}$$

6. $\frac{48060}{-12} =$ -4005

$$\begin{array}{r} 4005 \\ 12 \overline{) 48060} \\ - 48060 \\ \hline 0000 \end{array}$$

$$13. \frac{4^2 + 3^2}{5^2 + 2^2} = \frac{19}{27}$$

$$\frac{16+3}{25+2} = \frac{19}{27}$$

ok to leave like this

15. Find the class average if two students scored 90, one scored 87, four scored 70, and one scored 61.

① sum:

$$2(90) + 87 + 4(70) + 61 = 180 + 87 + 280 + 61 = 608$$

or

$$\begin{array}{r} 90 \\ 90 \\ 87 \\ 70 \\ 70 \\ 70 \\ 70 \\ 61 \\ \hline 608 \end{array}$$

$$\textcircled{2} \frac{608}{8} = \textcircled{76}$$

$$\begin{array}{r} 76 \\ 8 \overline{) 608} \\ \underline{56} \\ 48 \\ \underline{48} \\ 0 \end{array}$$

$$14. \sqrt{50 - 7 \times 2} = \boxed{6}$$

$$\sqrt{50 - 14}$$

$$\sqrt{36}$$

16. The average of four tests is 80. If the first three are 68, 75, and 93, find the 4th test grade.

so sum should be 4×80
 $= 320$ points

$$\begin{array}{r} 68 \\ 75 \\ + 93 \\ \hline \end{array}$$

236 points so far:

$$\begin{array}{r} 236 \\ 320 \\ \hline \end{array}$$

284 points still needed

In a right triangle, the hypotenuse is 10cm and one leg is 8cm.

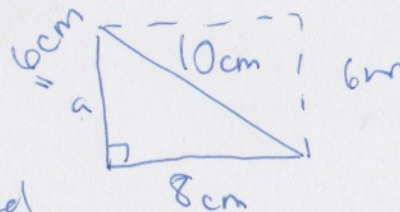
17. What is the perimeter?

$$P = 6 + 8 + 10 = \boxed{18 \text{ cm}}$$

18. What is the area?

$$A = \frac{bh}{2} = \frac{6 \cdot 8}{2} = \frac{48}{2}$$

$$\boxed{24 \text{ cm}^2}$$



$$a^2 + b^2 = c^2$$

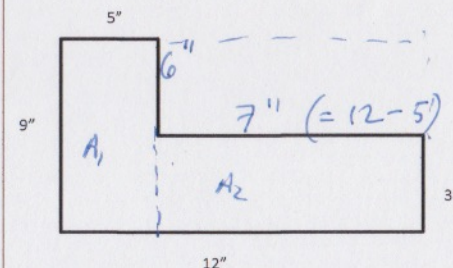
$$a^2 + 8^2 = 10^2$$

$$a^2 + 64 = 100$$

$$a^2 = 100 - 64 = 36$$

$$a = \sqrt{36} = 6 \text{ cm}$$

20. Assume all angles are right angles.



19. What is the perimeter?

$$P = 2(L + W) = 2(9 + 12) =$$

$$\textcircled{1} 2(21) = \boxed{42 \text{ cm}}$$

or: $P = 5 + 6 + 7 + 3 + 12 + 9$

$$\textcircled{2} P = \boxed{42 \text{ cm}}$$

20. What is the area?

$$\textcircled{1} A = A_1 + A_2$$

$$= 5 \cdot 6 + 7 \cdot 3$$

$$= 45 + 21 = \boxed{66 \text{ sq in}}$$

or

$$A = 9 \times 12 - 6 \times 6$$

$$108 - 42 = \boxed{66 \text{ sq in}}$$