

# What Is the Best Way To Become an Astronaut?

Key



Choose the correct answer for each exercise and circle the number-letter pair next to it. Write the letter in the matching numbered box at the bottom of the page.

### Set 1. Simplify.

a.  $12 + (5 - 9)$   
 $12 + (-4)$   
 $8$

b.  $-7(-1 + 8)$   
 $-7(7)$   
 $-49$

c.  $20 - (-3) + 15$   
 $+20 + 3 + 15$   
 $38$

d.  $(-5)(-4)(-18)$   
 $+20(-18)$   
 $-360$

e.  $16 - (-3 - 8)$   
 $16 - (-11)$   
 $27$

f.  $[-2 - (-9)] + 75$   
 $[-2 + 9] + 75$   
 $7 + 75 = 82$

### Set 1 Answers

~~26 • S~~ 27 ~~19 • T~~ -420

~~23 • J~~ -45 ~~21 • E~~ 38

~~16 • D~~ 8 ~~9 • F~~ 92

~~14 • A~~ 82 ~~8 • C~~ -49

~~30 • B~~ 30 ~~5 • O~~ -360

### Set 2. Simplify.

a.  $(-3 \cdot 4) + (-4 \cdot 3)$   
 $-12 + (-12)$   
 $-24$

b.  $(21 - 30)(-12 + 1)$   
 $(-9)(-11)$   
 $+99$

c.  $(-5)^3(-1)^{10}$   
 $(-125)(1) = -125$

d.  $100 - (-50) + (-25)$   
 $100 + 50 - 25$   
 $125$

e.  $(-30 - 30) \div (-5)$   
 $(-60) \div (-5)$   
 $12$

f.  $(-64 \div 8) + (-81 \div 9)$   
 $-8 + -9 = -17$

### Set 2 Answers

~~19 • A~~ 99 ~~2 • O~~ -125

~~30 • E~~ 12 ~~28 • I~~ 110

~~12 • T~~ -20 ~~23 • U~~ -24

~~18 • R~~ -9 ~~15 • N~~ -17

~~9 • H~~ 125 ~~24 • S~~ 15

### Set 3. Simplify.

a.  $\frac{-13 + 5}{13 - 15} = \frac{-8}{-2} = 4$

b.  $(-2)^4(-10)^2 = 16(100)$   
 $1600$

c.  $\frac{(-8)(-8)}{-8 + (-8)} = \frac{64}{-16} = -4$

d.  $\frac{-140}{14} + \frac{140}{-10} = -10 + -14$   
 $-24$

e.  $5(-3)^3 = 5(-27) = -135$

f.  $\frac{-77}{-7} - \frac{99}{-9} = 11 - (-11)$   
 $12$

### Set 3 Answers

~~4 • D~~ -30 ~~10 • O~~ 4

~~12 • L~~ -4 ~~24 • P~~ -135

~~18 • T~~ 12 ~~20 • V~~ -140

~~11 • R~~ 15 ~~28 • A~~ 1600

~~1 • G~~ -24 ~~29 • G~~ 2000

### Set 4. Evaluate if $a = -5$ , $b = -8$ , and $c = 2$ .

a.  $abc = (-5)(-8)(2)$   
 $80$

b.  $3a - b = 3(-5) - (-8)$   
 $-15 + 8$   
 $-7$

c.  $\frac{-a^2 + 1}{4c} = \frac{-(-5)^2 + 1}{4(2)} = \frac{-24}{8} = -3$

d.  $2b - (-c) = 2(-8) - (-2)$   
 $-16 + 2$   
 $-14$

e.  $cb^2 + a = 2(-8)^2 + (-5)$   
 $2(64) - 5$   
 $123$

f.  $\frac{(ac)^3}{5b} = \frac{(-5)(2)^3}{5(-8)} = \frac{-10^3}{-40} = 25$

### Set 4 Answers

~~11 • O~~ -7 ~~6 • N~~ -20

~~20 • K~~ 123 ~~7 • S~~ -14

~~25 • E~~ 130 ~~27 • P~~ 25

~~4 • T~~ 80 ~~22 • R~~ -11

~~17 • I~~ -80 ~~29 • C~~ -8

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|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| G1 | O2 | S3 | T4 | O5 | S6 | C7 | H8 | O9 | O10 | L11 | L12 | I13 | A14 | N15 | D16 | I17 | T18 | A19 | K20 | E21 | U22 | U23 | P24 | S25 | S26 | P27 | A28 | C29 | U30 |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

Modified: Set 1 and Set 2