STATISTICS: ADVANCED AVERAGES, RANGE & UNKNOWNS

Best Guess Mastery Worksheet (Target Grade 4/5)

I Do

Here are eight numbers written in order of size:

$$p,\quad 4,\quad 7,\quad 10,\quad q,\quad 15,\quad r,\quad r$$

where p, q, and r are integers. Median = 11, Mode = 19, Range = 16. Work out p, q, r.

$p =$ ..... $q =$ ..... $r =$ .....

We Do

Here are eight numbers written in order of size:

$$a,\quad 3,\quad 6,\quad 11,\quad b,\quad 14,\quad c,\quad c$$

where a, b, and c are integers. Median = 12.5, Mode = 20, Range = 17. Work out a, b, c.

$a =$ ..... $b =$ ..... $c =$ .....

You Do 1

Here are eight numbers written in order of size:

$$x,\quad 5,\quad 8,\quad 12,\quad y,\quad 17,\quad z,\quad z$$

where x, y, and z are integers. Median = 13.5, Mode = 22, Range = 18. Work out x, y, z.

$x =$ ..... $y =$ ..... $z =$ .....

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You Do 2

Here are eight numbers written in order of size:

$$d,\quad 2,\quad 5,\quad 9,\quad e,\quad 16,\quad f,\quad f$$

where d, e, and f are integers. Median = 10.5, Mode = 18, Range = 16. Work out d, e, f.

$d =$ ..... $e =$ ..... $f =$ .....

Challenge 1

Here are eight numbers written in order of size:

$$k,\quad 6,\quad 9,\quad 13,\quad m,\quad 20,\quad n,\quad n$$

where k, m, and n are integers. Median = 15.5, Mode = 25, Range = 21. Work out k, m, n.

$k =$ ..... $m =$ ..... $n =$ .....

Challenge 2

Here are eight numbers written in order of size:

$$w,\quad 4,\quad 8,\quad 11,\quad y,\quad 18,\quad z,\quad z$$

where w, y, and z are integers. Median = 14.5, Mode = 21, Range = 19. Work out w, y, z.

$w =$ ..... $y =$ ..... $z =$ .....

Answers & Worked Solutions

I Do:

Mode = 19 → $\boldsymbol{r = 19}$. Range = 16 → 19 − p = 16 → $\boldsymbol{p = 3}$.
Median = 11 → (10 + q) ÷ 2 = 11 → $\boldsymbol{q = 12}$. (**$p = 3, q = 12, r = 19$**)

We Do:

Mode = 20 → $\boldsymbol{c = 20}$. Range = 17 → 20 − a = 17 → $\boldsymbol{a = 3}$.
Median = 12.5 → (11 + b) ÷ 2 = 12.5 → $\boldsymbol{b = 14}$. (**$a = 3, b = 14, c = 20$**)

You Do 1:

Mode = 22 → $\boldsymbol{z = 22}$. Range = 18 → 22 − x = 18 → $\boldsymbol{x = 4}$.
Median = 13.5 → (12 + y) ÷ 2 = 13.5 → $\boldsymbol{y = 15}$. (**$x = 4, y = 15, z = 22$**)

You Do 2:

Mode = 18 → $\boldsymbol{f = 18}$. Range = 16 → 18 − d = 16 → $\boldsymbol{d = 2}$.
Median = 10.5 → (9 + e) ÷ 2 = 10.5 → $\boldsymbol{e = 12}$. (**$d = 2, e = 12, f = 18$**)

Challenge 1:

Mode = 25 → $\boldsymbol{n = 25}$. Range = 21 → 25 − k = 21 → $\boldsymbol{k = 4}$.
Median = 15.5 → (13 + m) ÷ 2 = 15.5 → $\boldsymbol{m = 18}$. (**$k = 4, m = 18, n = 25$**)

Challenge 2:

Mode = 21 → $\boldsymbol{z = 21}$. Range = 19 → 21 − w = 19 → $\boldsymbol{w = 2}$.
Median = 14.5 → (11 + y) ÷ 2 = 14.5 → $\boldsymbol{y = 18}$. (**$w = 2, y = 18, z = 21$**)