

Math 9: Chapter 8 Retest Answer Section

MULTIPLE CHOICE

1. ANS: C PTS: 1 DIF: Easy OBJ: Section 8.1
NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
KEY: one-step equation | division
2. ANS: B PTS: 1 DIF: Average OBJ: Section 8.1
NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
KEY: multi-step equation | multiplication | division
3. ANS: A PTS: 1 DIF: Difficult OBJ: Section 8.1
NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
KEY: multi-step equation | multiplication | division
4. ANS: C PTS: 1 DIF: Average OBJ: Section 8.2
NAT: PR3 TOP: Solving Equations: $ax + b = c$, $x/a + b = c$
KEY: multi-step equation | addition | division
5. ANS: C PTS: 1 DIF: Average OBJ: Section 8.2
NAT: PR3 TOP: Solving Equations: $ax + b = c$, $x/a + b = c$
KEY: multi-step equation | subtraction | multiplication | division
6. ANS: B PTS: 1 DIF: Difficult OBJ: Section 8.2
NAT: PR3 TOP: Solving Equations: $ax + b = c$, $x/a + b = c$
KEY: multi-step equation | subtraction | multiplication | division
7. ANS: A PTS: 1 DIF: Average OBJ: Section 8.3
NAT: PR3 TOP: Solving Equations: $a(x + b) = c$
KEY: multi-step equation | division | addition | distributive property
8. ANS: D PTS: 1 DIF: Easy OBJ: Section 8.4
NAT: PR3 TOP: Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$
KEY: multi-step equation | subtraction | division
9. ANS: B PTS: 1 DIF: Difficult OBJ: Section 8.4
NAT: PR3 TOP: Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$
KEY: multi-step equation | division | subtraction | multiplication
10. ANS: D PTS: 1 DIF: Easy OBJ: Section 8.4
NAT: PR3 TOP: Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$
KEY: multi-step equation | subtraction | addition | division
11. ANS: A PTS: 1 DIF: Difficult OBJ: Section 8.4
NAT: PR3 TOP: Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$
KEY: multi-step equation | addition | multiplication | division
12. ANS: C PTS: 1 DIF: Average OBJ: Section 8.4
NAT: PR3 TOP: Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$
KEY: multi-step equation | addition | division
13. ANS: B PTS: 1 DIF: Difficult OBJ: Section 8.4
NAT: PR3 TOP: Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$
KEY: multi-step equation | addition | multiplication | division | distributive property
14. ANS: B PTS: 1 DIF: Average OBJ: Section 8.1
NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
KEY: one-step equation | division | problem solving

15. ANS: B PTS: 1 DIF: Easy OBJ: Section 8.2
 NAT: PR3 TOP: Solving Equations: $ax + b = c$, $x/a + b = c$
 KEY: multi-step equation | problem solving

COMPLETION

16. ANS: denominator

PTS: 1 DIF: Average OBJ: Section 8.1 NAT: PR3
 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$ KEY: fraction | denominator

MATCHING

17. ANS: E PTS: 1 DIF: Average OBJ: Section 8.1
 NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
 KEY: opposite expression | inverse operation
18. ANS: A PTS: 1 DIF: Easy OBJ: Section 8.1
 NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
 KEY: fraction | denominator
19. ANS: D PTS: 1 DIF: Easy OBJ: Section 8.1
 NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
 KEY: fraction | numerator
20. ANS: G PTS: 1 DIF: Average OBJ: Section 8.1
 NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
 KEY: quotient | division
21. ANS: F PTS: 1 DIF: Average OBJ: Section 8.1
 NAT: PR3 TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$
 KEY: multiplication | product
22. ANS: C PTS: 1 DIF: Easy OBJ: Section 8.3
 NAT: PR3 TOP: Solving Equations: $a(x + b) = c$ KEY: expression | variable | operation

SHORT ANSWER

23. ANS:
 $4(4.1c - 0.875) = 6(1.8c + 1.75)$
 $16.4c - 3.5 = 10.8c + 10.5$
 $16.4c - 10.8c = 10.5 + 3.5$
 $5.6c = 14.0$
 $c = 2.5$

PTS: 1 DIF: Difficult OBJ: Section 8.4 NAT: PR3
 TOP: Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$
 KEY: multi-step equation | distributive property | addition | subtraction | division

24. ANS:

$$\frac{3h-6}{3} = \frac{2(3h-7.75)}{2.5}$$

$$h-6 = \frac{6h-15.5}{2.5} \quad (\text{error} = h-6 \text{ should be } h-2)$$

$$-3.5h = -0.5$$

$$h = 7 \quad (h \text{ should equal } 3)$$

Corrected solution

$$\frac{3h-6}{3} = \frac{2(3h-7.75)}{2.5}$$

$$h-2 = \frac{6h-15.5}{2.5}$$

$$2.5(h-2) = 6h-15.5$$

$$6h-2.5h = 15.5-5$$

$$3.5h = 10.5$$

$$h = 3$$

PTS: 1 DIF: Difficult+ OBJ: Section 8.4 NAT: PR3

TOP: Solving Equations: $ax = b + cx$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$

KEY: multi-step equation | multiplication | distributive property | subtraction | addition | division

PROBLEM

25. ANS:

$$1.8 \text{ km} = 1.8 \times 1000$$

$$= 1800 \text{ m}$$

$$2 \text{ min } 24 \text{ s} = 2(60) + 24$$

$$= 144 \text{ s}$$

Let s represent the speed of the skier.

$$s = \frac{\text{distance}}{\text{time}}$$

$$s = \frac{1800}{144}$$

$$s = 12.5 \text{ m/s}$$

The average speed of the skier is 12.5 m/s.

PTS: 1 DIF: Difficult+ OBJ: Section 8.1 NAT: PR3

TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$

KEY: single-step equation | speed | problem solving

26. ANS:

Example:

Let d represent the number of daytime minutes used.

$$(182 \times 0.02) + (d \times 0.06) = 17.86$$

$$3.64 + 0.06d = 17.86$$

$$0.06d = 17.86 - 3.64$$

$$0.06d = 14.22$$

$$d = 237$$

A total of 237 daytime minutes were used.

PTS: 1

DIF: Difficult

OBJ: Section 8.2

NAT: PR3

TOP: Solving Equations: $ax + b = c$, $x/a + b = c$

KEY: multi-step equation | subtraction | division | problem solving

27. ANS:

Let v represent the number of videos that a club member must rent.

$$25 = (3.50 - 5.00)v$$

$$25 = 1.50v$$

$$16.\bar{6} = v$$

The member must rent at least 17 movies to save money on the membership.

PTS: 1

DIF: Easy

OBJ: Section 8.4

NAT: PR3

TOP: Solving Equations: $ax = b$, $x/a = b$, $a/x = b$

KEY: single-step equation | division | problem solving